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(54) Title: DISTRIBUTION SYSTEM

(57) **Abstract:** A distribution system for transferring a plurality of items from a distribution center to a customer comprises a delivery device and a retail device. The delivery device identifies the items and maintains a delivery record of a transfer of the items from the distribution center to the customer. The retail device identifies the items and maintains a receipt record of the transfer of the items. Upon identifying the item, the delivery device displays a description of the item on a display screen, such as the display on a portable computer. The delivery device identifies the items with a barcode scanner. The delivery device also includes a data entry apparatus to enter transfer information, such as an electronically captured signature, into the delivery record.



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DISTRIBUTION SYSTEM

The present application claims the benefit of co-pending U.S. Provisional Patent Application Serial No. 60/208,133, which was filed on May 31, 2000.

FIELD OF THE INVENTION

5 The field of the invention is a distribution system, and more particularly, a distribution system for transferring ordered items from one point to another, such as from a warehouse to a customer.

BACKGROUND OF THE INVENTION

10 Retail stores, including pharmacies, drug stores or other non-retail entities, require the delivery of products on a routine basis. Typically, the retail stores rely on a distribution system to supply them with products. The general distribution system includes a distribution center and a fleet of delivery vehicles. The distribution center receives orders for specific items, and the delivery vehicles transport those products to the retail store.

15 The distribution center generally comprises a warehouse storing a large volume of various items. The retail stores order specified quantities of the products from the distribution center. To coordinate the transfer of the ordered items, an invoice generated by the distribution center lists the quantities of items ordered by retail store. Typically, warehouse personnel gather the listed quantities of items on the invoice from their storage locations in the warehouse. The warehouse personnel then place the ordered items into shipping units for shipment to the retail
20 store. Each shipping unit has a unique label representing the invoice and retail store. The filled shipping units are then moved to the shipping dock area of the warehouse.

25 Delivery vehicles transfer the shipping units with the ordered items from the warehouse docks to the retail stores. Each delivery vehicle has a specific delivery route stopping at several retail stores along their route. At the warehouse dock or any cross-docks, the delivery vehicle receives the shipping units for delivery on their scheduled route. A driver of the vehicle receives a manifest for each retail store identifying the shipping units to be delivered at that stop.

30 At the retail store, the driver unloads shipping units from the delivery vehicle corresponding to the manifest. The driver checks the manifest for each shipping unit delivered. A receiving agent or clerk of the retail store receives the shipping units from the driver and verifies their contents. After all of the shipping units have been transferred to the retail store, the clerk signs the manifest and receives an invoice. The driver then continues to the next retail store on the designated route. After all deliveries have been made, the driver returns to the

distribution center to provide copies of the signed manifests verifying the deliveries. The distribution center maintains the manifests for tracking and billing purposes.

The conventional distribution system has several shortcomings. One shortcoming is the volume of paper involved in the above deliveries. Typically, several copies of the manifest and invoice must be maintained in files. One problem with so many papers is the tendency for the paper copies to be lost or damaged. Another problem with maintaining paper records is the time and labor costs. An additional shortcoming of the conventional distribution system is driver error. The driver may deliver the wrong shipping unit to a retail store. This driver error requires that the shipping units be returned to the distribution center for redirection to the proper retail store. Additionally, this driver error adversely affects the retail store if the items were needed immediately. A further shortcoming of the conventional distribution system is the difficulty the receiving retail store has verifying the deliveries. For a delivery comprising a large volume of shipping units, the clerk must either trust the driver is delivering the proper shipping units or perform a time consuming check of the shipping units and their contents.

In the convention distribution system, the retail stores order products from the distribution center using a catalog supplied by the distribution center. The ordering agent or clerk of the retail store must generate the order using item identification numbers provided in the catalog. Typically, the clerk writes down the identification number and a quantity of the desired item. After compiling the identification numbers and quantities of the items to order, the clerk then transmits the order by mail or facsimile to the distribution system. One shortcoming of the ordering process is the volume of paper involved in the above transactions. Another problem is the time and labor costs to generate the order. An additional shortcoming of the conventional ordering process is employee error. The clerk may enter the wrong identification numbers or quantity for the item. This error requires that the shipping units be returned to the distribution center. Additionally, this error adversely affects the retail store if the items were needed immediately.

Thus, there is a need for a distribution system that reduces the amount of paper, reduces the possibility of error, reduces the review of the delivery by the receiving agents, and simplify the ordering process.

SUMMARY OF THE INVENTION

According to one aspect of the present invention, there is provided a distribution system for transferring a plurality of items from a distribution center to a customer. The distribution

system comprises a delivery device and a retail device. The delivery device identifies the items and maintains a delivery record of a transfer of the items from the distribution center to the customer. The retail device identifies the items and maintains a receipt record of the transfer of the items. Upon identifying the item, the delivery device displays a description of the item on a display screen, such as the display on a portable computer. The delivery device identifies the items with a barcode scanner. The delivery device also includes a data entry apparatus to enter transfer information, such as an electronically captured signature, into the delivery record. The delivery device also stores a driver manifest record. The driver manifest record contains a description of the customer, a listing of the items to delivery and a status of the items, such as delivered or not delivered. The driver manifest record may further contain a listing of a second customer and a second plurality of items to be transferred to the second customer. The retail device is also capable of creating an ordering record of a plurality of items by identifying the item and a quantity of the item to order from the distribution center. The retail device is further capable of creating an inventory record by identifying the items and their quantity within a store. Moreover, the retail device is capable of creating a price change record by identifying the item and changing a price associated with the item. Furthermore, the retail device is capable of creating a returns record by identifying a return item to return to the distribution center. The distribution system also includes a distribution center computer capable of communicating with the delivery device and retail device to transfer the above-described records

According to another aspect of the present invention, there is provided a method for distributing a plurality of items to a customer. The method comprises placing the items destined for the customer into a shipping unit and placing a label on the shipping unit. The label has a unique identifier used to identify the container and its contents. The method further comprises creating a shipment record identifying the shipping unit by its identifier and listing the items within the shipping unit. The method sends the shipping record to the customer and delivers the shipping unit to the customer. The customer receives the shipping unit and identifies the shipping unit by electronically reading the identifier on the label. The customer verifies the contents of the shipping unit using the listing of the items within the container in the shipping record. The customer electronically records any discrepancy between the contents of the shipping unit and the listing in the shipping record. The method further includes creating a delivery record of the delivery by electronically reading the identifier as the shipping unit is delivered. A receipt record of the receipt of the shipping unit may also be created by identifying

the shipping unit and recording any differences between the items listed on the shipping record and the items within the container. A signature confirming delivery of the shipping unit to the customer may be electronically captured, and the time of delivery may be electronically recorded.

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BRIEF DESCRIPTION OF THE DRAWINGS

Other aspects and advantages of the invention will become apparent upon reading the following detailed description and upon reference to the drawings.

FIG. 1 is an overview block diagram of a distribution system;

FIG. 2 is a flow chart of the operations performed by a distribution center for one
10 embodiment of the present invention;

FIG. 3 is a container label for one embodiment of the present invention;

FIG. 4 is a perspective of a delivery device for one embodiment of the present invention;

FIG. 5 is a flow chart of the operations performed by a driver of a delivery vehicle for
one embodiment of the present invention;

FIG. 6 is a perspective of an upload and download system for one embodiment of the
15 present invention;

FIG. 7 is a screen capture of a route selection screen for one embodiment of the present
invention;

FIG. 8 is a screen capture of the route selection screen for one embodiment of the present
20 invention;

FIG. 9 is a screen capture of a preload screen for one embodiment of the present
invention;

FIG. 10 is a screen capture of the preload screen for one embodiment of the present
invention;

FIG. 11 is a screen capture of the preload screen for one embodiment of the present
25 invention;

FIG. 12 is a screen capture of a nonload screen for one embodiment of the present
invention;

FIG. 13 is a screen capture of a driver manifest screen for one embodiment of the present
30 invention;

FIG. 14 is a screen capture of the driver manifest screen for one embodiment of the
present invention;

FIG. 15 is a screen capture of a stop information screen for one embodiment of the present invention;

FIG. 16 is a screen capture of the driver manifest screen for one embodiment of the present invention;

5 FIG. 17 is a screen capture of the driver manifest screen for one embodiment of the present invention;

FIG. 18 is a screen capture of a signature collection screen for one embodiment of the present invention;

10 FIG. 19 is a screen capture of the signature collection screen for one embodiment of the present invention;

FIG. 20 is a screen capture of the signature collection screen for one embodiment of the present invention;

FIG. 21 is a screen capture of a nondelivery manifest screen for one embodiment of the present invention;

15 FIG. 22 is a screen capture of a pickup screen for one embodiment of the present invention;

FIG. 23 is a screen capture of a query page for delivery information for one embodiment of the present invention;

20 FIG. 24 is a screen capture of a search results page for delivery information for one embodiment of the present invention;

FIG. 25 is a perspective of a retail device for one embodiment of the present invention;

FIG. 26 is a flow chart of the operations performed by a receiving agent of a delivery for one embodiment of the present invention;

25 FIG. 27 is a flow chart of the operations performed by an ordering agent for creating an order of items for one embodiment of the present invention;

FIG. 28 is a block diagram of an upload and download system for one embodiment of the present invention;

FIG. 29 is a screen capture of a receiving screen for one embodiment of the present invention;

30 FIG. 30 is a screen capture of the receiving screen for one embodiment of the present invention;

FIG. 31 is a screen capture of the receiving screen for one embodiment of the present invention;

FIG. 32 is a screen capture of the receiving screen for one embodiment of the present invention;

5 FIG. 33 is a screen capture of a find screen for one embodiment of the present invention;

FIG. 34 is a screen capture of the find screen for one embodiment of the present invention;

FIG. 35 is a screen capture of the find screen for one embodiment of the present invention;

10 FIG. 36 is a screen capture of an order creation screen for one embodiment of the present invention;

FIG. 37 is a screen capture of an ordering screen for one embodiment of the present invention;

15 FIG. 38 is a screen capture of the ordering screen for one embodiment of the present invention;

FIG. 39 is a screen capture of the ordering screen for one embodiment of the present invention;

FIG. 40 is a screen capture of the ordering screen for one embodiment of the present invention;

20 FIG. 41 is a screen capture of a find screen for one embodiment of the present invention;

FIG. 42 is a screen capture of the find screen for one embodiment of the present invention; and

FIG. 43 is a screen capture of an item detail screen for one embodiment of the present invention;

25 FIG. 44 is a flow chart of the inventory procedures performed by a clerk for one embodiment of the present invention;

FIG. 45 is a screen capture of an inventory main screen for one embodiment of the present invention;

30 FIG. 46 is a screen capture of an inventory header screen for one embodiment of the present invention;

FIG. 47 is a screen capture of an inventory entry screen for one embodiment of the present invention;

FIG. 48 is a screen capture of an item detail screen for one embodiment of the present invention;

FIG. 49 is a flow chart of the returns procedures performed by a clerk for one embodiment of the present invention;

5 FIG. 50 is a screen capture of a returns main screen for one embodiment of the present invention;

FIG. 51 is a screen capture of a returns header screen for one embodiment of the present invention;

10 FIG. 52 is a screen capture of a returns entry screen for one embodiment of the present invention;

FIG. 53 is a screen capture of the returns entry screen for one embodiment of the present invention;

FIG. 54 is a flow chart of the retail price change procedures performed by a clerk for one embodiment of the present invention;

15 FIG. 55 is a screen capture of a retail main screen for one embodiment of the present invention;

FIG. 56 is a screen capture of a retail header screen for one embodiment of the present invention;

20 FIG. 57 is a screen capture of a retail entry screen for one embodiment of the present invention;

FIG. 58a and 58b are screen captures of an item detail screen for one embodiment of the present invention;

FIG. 59 is a screen capture of a retail entry screen for one embodiment of the present invention;

25 FIG. 60 is a flow chart of the sticker request procedures performed by a clerk for one embodiment of the present invention;

FIG. 61 is a screen capture of a sticker main screen for one embodiment of the present invention;

30 FIG. 62 is a screen capture of a sticker header screen for one embodiment of the present invention; and

FIG. 63 is a screen capture of a sticker entry screen for one embodiment of the present invention.

While the invention is susceptible to various modifications and alternative forms, specific embodiments thereof have been shown by way of example in the drawings and are herein described in detail. It should be understood, however, that the description herein of the specific embodiments is not intended to limit the invention to the particular forms disclosed, but on the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention as defined in the appended claims.

DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

Turning now to the drawings and referring initially to FIG. 1, there is depicted an overview of a distribution system according to the present invention. The distribution system comprises a distribution center and a fleet of delivery vehicles. In the general operation of the distribution system, a retail store places an order for items with the distribution center. After receiving the order, the distribution center gathers the ordered items from its warehouse and places them into shipping units. Typically, the shipping unit is a stackable, reusable container called a tote. Generally, the container has a cover that houses and protects the items placed within the container. Alternatively, the items may also gathered onto pallets, bags, coolers or may be shipped in the manufacturer's packaging. The filled containers are then moved to a shipping dock area of the distribution center. Delivery vehicles receive the containers with the ordered items from the warehouse docks. Each delivery vehicle has a specific delivery route stopping at several retail stores along the route. At the retail store, the containers carrying items, ordered by that retail store, are unloaded from the delivery vehicle. The delivery vehicle then continues to the next retail store on the designated route. After completing all of the deliveries, the delivery vehicle returns to the distribution center.

In other embodiments of the distribution system, the delivery vehicles make deliveries directly to customers or other entities. For example, the distribution system may supply items to hospitals, universities, businesses, residences or any type of entity. In other embodiments, the large delivery vehicles may transfer their items or shipping containers to several smaller delivery vehicles which in turn may transfer their items or shipping containers to other even smaller delivery vehicles before eventual delivery to the retail store or other non-retail entity. In further embodiments, the retail store or non-retail entity does not need to place an order with the distribution center to receive deliveries. Moreover, the delivery vehicles may deliver any type of items or shipping units with many items.

The distribution center generally performs the steps illustrated in FIG. 2 to service orders from the retail stores or other entity. First, the distribution center receives the order at step. In one embodiment, a centralized computer system or distribution center computer system receives the order through a communication link, such as the Internet, with the retail store or customer. In other embodiments, the order may be received by mail, facsimile or telephone. All orders are entered into the distribution center computer system. The distribution center computer system runs a software package designed to manage the operations of the distribution center. The software package provides inventory management including item storage locations and quantity of the items in the warehouse. The software package also coordinates servicing of the orders. One example of the distribution center software package is ACUMAX™ developed and used by MckessonHBOC, the assignee of the present invention. In an alternative embodiment, a centralized computer system, such as a host server located away from the distribution center warehouse, performs the operations of the distribution center computer system. One centralized computer system may perform the distribution operations for several distribution centers. Additionally, the distribution center computer system may be a stand-alone computer, located within or away from the distribution center.

After the order has been received, warehouse staff gather the ordered items into containers destined for the retail store at step. In one embodiment, the warehouse staff obtain a copy of the order on a wrist-mounted computer or other computer workstation in communication with the distribution center computer system. The wrist-mounted computer may communicate with the distribution center computer system over a wireless link. The warehouse staff utilizes a scanner attached to the wrist computer or workstation to scan an identifying barcode of an empty container. The scanned container will hold ordered items for shipping to the retail store. Each shipping container has an identifying barcode to distinguish it from similar appearing containers.

To assist the staff with filling the container, the wrist-mounted computer then instructs the staff to go to a certain location in the warehouse and scan the barcode associated with that location. If the correct location barcode has been scanned, the wrist-mounted computer describes the item stored at that location and quantity of the item required by the order on its display. The staff picks the items from the shelves and enters in a quantity of that item placed into the container. Typically, the staff uses the scanner on the wrist-mounted computer to read the barcode of items as they are placed into the container.

Once all of the ordered items have been placed into the container, the warehouse personnel print a label that is adhered to the container at step. If all of the ordered items do not fit into a single container, additional containers are filled with ordered items following a similar procedure as described above. The labeled containers are sent to the shipping dock at step. In
5 one embodiment, after the containers are labeled, the staff scans a location barcode corresponding to the position within the warehouse of the labeled containers before completing the process. This allows a different staff person to collect the various containers from different warehouse locations and take them to the designated shipping dock.

FIG. 3 illustrates a container label according to one embodiment of the present invention.

10 The label has a unique identifier used to identify the container and its contents. In the embodiment, the identifier is a barcode. Additionally, the label includes a retail store name and address information, a route number and a stop number. The route number corresponds to a specific route assigned to a specific delivery vehicle. The route number determines onto which delivery vehicle the containers are loaded. The stop number corresponds to one of the retail
15 stores or other entities on the specified route of the delivery vehicle. Other information may be included on the label including an account number and department number further identifying the retail store. Additionally, the label may indicate whether the contents of the container are hazardous, the type of items shipped in the container such as over-the-counter, prescription or narcotic. Moreover, the label may indicate how many other shipping units are destined to this
20 retail store.

To coordinate the transfer of the containers from the shipping docks of the distribution center to the retail stores or customers, the driver of the delivery vehicle has a delivery device as illustrated in FIG. 4. In one embodiment, the delivery device is a Palm Computing platform incorporated in a rugged housing sold by Symbol Technologies. The delivery device includes a
25 scanning device that reads the identifier on the label. In one embodiment, the delivery device includes a laser barcode scanner activated by a scanner button. The delivery device also includes a display screen and a graffiti area. The delivery device includes a stylus (not shown) as used with the Palm Computing platform. The driver may select information from the delivery device by tapping on the display screen with the stylus. The delivery device is programmed with
30 delivery software to assist the driver with the delivery of the containers to the customers and to collect information regarding the deliveries. In other embodiments, the delivery device may comprise a portable computer such as a notebook computer with a scanner attachment.

FIG. 5 illustrates the general operations performed for the delivery of the containers. A more detailed description of the delivery operations will be described below. First, the delivery device downloads a delivery information file from the distribution center computer system at step. The labeled containers or other labeled shipping units containing ordered items, such as cases, bags, coolers and pallets, are loaded onto the delivery vehicle according to the route number on their labels at step. Using the delivery device, the driver selects a route and stop on the delivery device and stops at the corresponding retail store or customer at step. At the retail store, the driver scans the barcodes of the labeled containers corresponding to the retail store and unloads those containers at the retail store at step. Once all of the containers destined for the retail store are unloaded, the driver obtains a signature with the delivery device of the receiving agent or clerk at the retail store to confirm the delivery of the containers at step. After the delivery has been completed at that retail store, the driver determines whether that retail store is the last stop at step. If additional deliveries must be made at other retail stores, the driver returns to step and selects the next stop. If the answer at step is yes, the driver returns to the distribution center at step. Upon return to the distribution center, the delivery information captured on the delivery device during the deliveries is uploaded to the distribution center computer system.

FIG. 6 depicts one embodiment for downloading and uploading the delivery information to and from the delivery device of steps in FIG. 5. The delivery device connects with a cradle through contacts (see FIG. 4). The distribution center computer system connects to the cradle via cable. The delivery information file is communicated between the distribution center computer system and the delivery device through the cable. In an alternative embodiment, the delivery device wirelessly communicates with the distribution center system computer. With the wireless communications, the delivery information file may be downloaded and uploaded all at once in real time or the distribution center computer system and the delivery device may frequently exchange delivery information. In an alternative embodiment, the delivery information file is communicated to a stand-alone computer with the cradle and cable. The delivery information file includes driver manifest information used to make the deliveries. The manifest information includes information on the containers that will be loaded onto the delivery vehicle. The manifest information also includes route and stop information.

After downloading the delivery information of step, the delivery vehicle is loaded with containers according to the route numbers on the labels at step. In an alternative embodiment, as the labeled containers are placed into the delivery vehicle, the driver uses the delivery device to

scan the barcodes on the labels of the containers. In this embodiment, the delivery device obtains data to verify that the containers required for the deliveries are placed onto the delivery vehicle as described below with the preload option on the delivery device.

The delivery device assists the driver with the deliveries. FIG. 4 illustrates the delivery device having a home screen on the display screen. The illustrated embodiment depicts the driver device programmed for drivers of McKessonHBOC, assignee of the present application. In other embodiments, the delivery device may be programmed for drivers of other delivery or supply services. The home screen provides the driver with the options of "Route Select," "Preload," "Manifest," "Instructions," and "New Information." The driver selects one of the options by tapping the icon or the field corresponding the location of the text of the option on the display screen. Selection of the "Instructions" option provides a list of topics that explain the features of the delivery device. By selecting one of the listed topics, the display screen provides a detailed description of the procedures for the selected topic. Selection of the "New Information" option provides a listing of news alerts from the distribution center.

If the driver selects the "Route Select" option, the display screen provides a route selection screen as illustrated in FIG. 7. The driver prepares the delivery device for the delivery procedures. The route selection screen lists the distribution center identification number "DC #:", courier identification code "Courier ID:", driver identification "Driver ID:", and Door/Truck number "Door/Truck:". The driver checks the validity of listed identifications. If the identifications are incorrect, the driver selects the appropriate field and enters the correct information. The route selection screen provides a language preference drop list, such as English or Spanish that the driver changes using the drop list. Additionally, the route selection screen provides a button group used to choose between a normal mode of delivery where a delivery unit is a single container and a pallet mode where a delivery unit is an entire pallet of containers. The driver selects the appropriate mode by tapping the desired button.

Additionally, the route selection screen lists the time zone with a "Timezone:" list box of the delivery area. Because the delivery device maintains a record of date and time of deliveries, the driver may change the time zone of the delivery area to ensure correct time with the drop box that lists the various time zones. The route selection screen also displays a "Route" list box containing the currently selected routes. Routes may be added by selecting the route number, such as "027" as illustrated in FIG. 7, hitting a "+" button and entering the appropriate new route

number. Routes may be removed from the driver device by selecting the route number, such as “027” as illustrated in FIG. 7, hitting a “-“ button.

Because each route may consist of multiple stops, the range of stops for a selected route at which the driver will service may also be selected on the driver device. FIG. 8 illustrates the second page of the route selection screen accessible via the page down arrow 94. Each route number has a range of stop numbers. If no stop range is set, all of the stops for the selected route will be selected by default. To select a specific range of stops for a route, the driver first selects the route number at a “Route” list box. After selecting the route, the driver then selects the beginning and ending numbers with the three single digit drop lists under “Start” and “End”.

The driver may add stops to a selected route with a “+” button to increment the listed stops in a “Stops” box, such as “001-050” to “001-051.” To remove a stop from a selected route, the driver selects a “-“ button to decrement the listed stops in the stop box, such as “001-050” to “001-049.”

Once all of the setting on the route selection screen have been entered or verified, the driver selects a “Done” button to save the settings and return to the home screen. By selecting a “Download” button, a download flag is set within the driver device. The download flag signals that a new delivery information file is to be downloaded into the delivery device the next time the delivery device is synched with the distribution center computer system as described in conjunction with FIG. 6. The driver selects a “Done” button to save the entered settings and to exit the route selection screen without setting the download flag. The driver selects a “Cancel” button to return to the home page screen without out saving the entered settings.

If the driver selects the “PreLoad” option on the home screen, the display screen provides a preload screen to implement a preload process as illustrated in FIG. 9. The preload screen allows a driver to efficiently confirm that all of the containers on the manifest received by downloading the delivery information are present prior to loading them into the delivery vehicle. The preload screen also allows the driver to ensure that there are no extra shipping containers placed on the delivery vehicle. In one embodiment, the preload screen cannot be entered once the deliveries have begun. Additionally, once preload process has begun, the deliveries cannot be started until preload process has been completed. The driver device provides error messages on the display screen to notify the driver of either of these events.

Generally, the driver selects the preload feature after the delivery information file including the manifest has been downloaded onto to the delivery device from the distribution center computer system. After downloading the delivery information, the delivery device

contains records listing all of the containers and the items within the containers for the selected route(s) and stops. After entering the preload screen, the driver selects the last stop of displayed route from a "Select Stop" drop box. FIG. 10 illustrates the last stop of "049-18/WAL-MART 270!" for route "049" and its primary account number as "805595." After selecting the last stop, the driver scans the label barcode on the container or selects the corresponding container listed in a "Select Container" drop box and press a "Load" button for each container that belongs to the selected stop. As the containers are scanned an "L" is automatically placed in the brackets next to the container in the container drop box. If the driver wishes to change the status of the container, the driver may scan its barcode or select it manually and press an "Unload" button that replaces the "Load" button if the container was already flagged as loaded. Once all of the containers for each stop have been scanned (selected) and loaded, a "\$" is displayed next to the stop information as illustrated in FIG. 11.

Once all of the containers have been loaded for all of the stops, the driver taps a "Complete" button. If all of the containers listed on the manifest for the stops have been correctly loaded, the driver device displays the home screen. However, if some containers were not loaded, driver device displays a nonload screen as illustrated in FIG. 12. The nonload screen provides a listing of the nonloaded containers as illustrated in FIG. 12. If the driver has not purposely nonloaded the listed containers, the driver uses a "Cancel" button to return to the preload screen and to load those containers. Otherwise, the driver selects each of the nonloaded containers and enters a reason for not loading the container. A "Reason" drop box provides the options of "Missing" or "Other." If the driver selects the "Missing" option, the container will have a "?" in the bracket on the "Select Container" drop box. If the driver selects the "Other" option, the brackets will contain an "O." When the driver selects the reason as "Other," the driver enters comments about the container at a "Remarks" line. To quickly mark the status of all the containers with the same reason, the nonload screen provides an "All Containers: Reason" drop box. In addition, the stops having nonloaded containers will be marked with an "*" on the "Select Stop" drop box. These statuses will be provided on the driver manifest screen described below, and they may be changed if the driver finds the missing container at the point of delivery. After all of the nonloaded containers have been accounted for, the driver taps a "Complete" button to return to the preload screen.

The preload screen on the delivery device also provides summary information about the selected route and/or stop as shown in FIG. 9. A summary information field lists the total

number of preloaded and scheduled containers next to “Total,” the preloaded and scheduled narcotics next to “DEA” (the narcotics are included in the total for the Total), and a summary breakdown of the preloaded and scheduled containers titled “Detail.” The “Detail” identifies the container types such as half tote and full tote. The preload screen also includes a “Filter”
5 checkbox. The driver may tap this checkbox to display in the “Select Container” list box only those containers that have not been loaded. This feature helps the driver identify whether containers are missing. Additionally, if the driver discovers a container that is not in the “Select Container” drop box, the driver taps the “+Cont” button to enter the barcode number of the container’s label. After completing the preload process, the driver is insured that all of the
10 containers schedule for his delivery are either loaded on the delivery vehicle or accounted for as nonloaded.

In an alternative embodiment, the delivery vehicle may be loaded with shipping containers from a cross-dock. That is, a large delivery vehicle unloads its shipping containers into several smaller delivery vehicles. The preload features on the delivery device, as described
15 above on the delivery device, may also be used when loading the delivery vehicle from a cross-dock.

After the delivery vehicle has been loaded with the containers, the driver departs the dock. To begin the deliveries, the driver selects the “Manifest” option on the home screen to view a manifest screen. The driver will use the manifest screen of the delivery device to make
20 the schedule deliveries. First the driver selects the route and stop to service of step in FIG. 5. In one embodiment, the manifest screen initially requests the driver to acknowledge whether the date and time displayed are correct. If the date or time is incorrect, the delivery device prompts the driver to enter the correct values. After the date and time are correct, the driver views a driver manifest screen as illustrated in FIG. 13 to select the route and stop. On the driver
25 manifest screen, the driver selects the route number by using a route list box and highlighting the desired route such as “049.” The driver then selects a stop from the “Select Stop” list box.

After the route and stop have been selected, an account number corresponding to stop is displayed. As illustrated in FIG. 14, the Stop/Location list box displays each stop for the selected route “029.” For each stop, the list box provides the route/stop number, the customer’s
30 name and as much of the address that can be displayed. The list box also provides a status flag for each stop with “ ” representing that the stop does not have any delivered containers, “*” representing that the stop has at least one signature but is not complete, “\$” representing that the

stop is complete with all containers signed for, “#” representing that the stop is complete but has containers flagged as “Missing” or “Refused,” and “—” representing that the stop is complete but has containers flagged as “Closed.” For example, the displayed “\$029-10/WAL-MART 1631 - 1900” represents that stop number “10” on route “029” is the Wal-Mart store with street
5 number 1900, and all containers destined for that stop have been delivered and a signature has been captured.

If the driver needs more information about a stop, the driver taps an “Info” button (see FIG. 13) on the manifest screen. Tapping the “Info” button provides a stop information screen as illustrated in FIG. 15. The stop information screen provides additional stop details including the
10 complete address and telephone information for the retail store. On the stop information screen, the driver may change the listed information and then taps an “Add” button to have the changes saved. To return to the driver manifest screen and have the changes save, the driver taps a “Done” button; otherwise, the driver taps a “Clear” button to discard the changes. If the driver selects the “Info” button when no stop is highlighted, the driver uses the “Add” button to enter a
15 new stop.

To further assist the driver with the deliveries, the driver manifest screen also provides a listing of the containers placed on the delivery vehicle at the distribution center in a “Select Container” list box as depicted in FIG. 13. The container listing shown in FIG. 16 includes the status of each container provided by the following symbols: [] undelivered, [*] delivered, [\$] signed, [?] missing, [X] refused, [C] closed, and [O] other. The container listing also shows the
20 container number as listed below the barcode on the label, the container type (FT for full tote, HT for half tote, BG for bag, BP for bulk pick, CL for cooler, CP for case pick), the drug type (N for OTC over-the-counter, P or R for RX for prescription drugs, and X, B, D, E for DEA controlled narcotics), and the receiving agent’s name after the signature has been captured. For
25 example, the displayed “[*]U5220769-HT-R” represents that the half tote numbered “5220769” containing prescription drugs has been delivered but not signed.

The driver manifest screen on the delivery device also provides summary information about the selected stop as shown in FIG. 13. The stop summary information on the driver manifest screen lists the total number of delivered and scheduled containers “Total”, the
30 delivered and scheduled narcotics “DEA” (the narcotics are included in the total for the Total), and a summary breakdown of the delivered and scheduled containers titled “Detail”. The “Detail” identifies the container types such as half tote and full tote. The driver manifest screen

(see FIG. 13) also provides an account and department list box. By selecting a specific account, the driver can display a subset of the containers for the selected stop because some of the deliveries are made to specific accounts and departments of the retail store. The stop summary information will reflect this subset of the containers.

- 5 After the driver has arrived at the selected stop on the route, the driver unloads the appropriate containers for the stop. Typically, as the driver unloads the containers from the delivery vehicle, the driver uses the delivery device to scan the barcode on the container labels as described at step of FIG. 5. Once the container is scanned, the container number and other information is displayed on the line of the “Select Container” drop box as illustrated in FIG. 17.
- 10 For example, “[*] U5220769 – HT – R” illustrated on the line of the “Select Container” drop box in FIG. 17 informs the driver that container number “5220769” has been scanned.

- When the container is scanned, the container is automatically considered delivered by the delivery device. The status flag for the container on the container line is changed to “[*]” to represent delivered and the summary information on the driver manifest screen is updated to
- 15 reflect this delivery. Instead of scanning the container, the driver may highlight the desired container on the “Select Container” drop box (see FIG. 16) and manually tap a “Delivery” button to flag the container as delivered. Once the container is delivered, the delivery device maintains a record of the delivery of this container at this stop.

- The delivery device coordinates the deliveries to reduce the chance of driver error. For
- 20 example, if the driver makes a mistake delivering the container, the container may be undelivered by pressing an “Undeliver” button (see FIG. 17) that is the same button as the “Deliver” button prior to scanning the container. Selecting the “Undeliver” button removes the delivered status flag and removes the container from the delivery record for the stop. However, the delivery device provides a warning prompt and requires the driver to validate the undeliver
- 25 entry. Additionally, if a container is scanned that is not for the selected route, stop, and/or account, a warning prompt will be displayed. The warning prompts provided by the delivery device depend on the circumstances of the incorrect delivery. If the container is for another stop in the manifest, a warning will display the scheduled delivery location. If the container is not located in the manifest, a prompt will display asking the driver if the container should be added
- 30 to the stop. If there more than one account exists for the stop, then an account must be selected before the container can be delivered. If the container was not originally on the driver manifest, the delivery device will require the driver to confirm the decision to deliver the container.

The delivery device also coordinates the delivery and records the delivery information of containers that are not on the driver manifest. If a container is added to a stop that has no barcode to scan, the driver must enter a customer number for the container. To enter the customer number, the driver taps a "+Cont" button (see FIG. 17). A prompt then appears asking the driver to enter the container number. If the container consists of multiple units, the driver checks the "Multiple Cont" flag before tapping the "+Cont" button. After entering the container number, the driver is prompted to enter the quantity of units delivered. These steps maintain an accurate record of the delivery in the delivery device.

The delivery device also maintains the record of the delivery information for bulk pick containers that contain more than one container per label. If a container is part of a bulk pick (BP), the driver is prompted to confirm the number of pieces delivered with a message such as "Enter QTY Delivered! (10)". The listed quantity for the "Pieces" of the bulk pick is the scheduled quantity for delivery. The driver enters the correct number delivered, and the delivery device records the delivery information. If the driver entered an incorrect quantity, the driver must undeliver the shipping container and then redeliver the container.

After the driver has scanned, selected or manually entered the containers delivered to the retail store, the driver uses the delivery device to obtain a signature and name confirming the receipt of the delivery by the retail store. To obtain the proof of delivery signature, the driver taps a "Sign" button (see FIG. 17). Selecting the "Sign" button provides a signature collection screen as shown in FIG. 18. The signature collection screen displays a summary of all the unsigned delivered containers from the driver manifest screen for this stop. For example, the displayed "Total 3; DEA 1" and "DETAIL HT:2; BG:1" represent that two half totes and one bag with controlled narcotics have been delivered to at this stop. The signature collection screen also includes a receiver list box containing known receiving agents or clerks' last names for the stop. As illustrated in FIG. 19, the signature collection screen further includes a second page viewable by scrolling down. The second page of the signature collection screen provides container and invoice details. For the example displayed in FIG. 19, the container number "U3429040" and the corresponding invoice number "000238" for the delivered container are displayed. A remarks section allows the driver to enter comments regarding the delivery that are captured in the record on the delivery device. If the receiving agent or clerk at the retail store is not satisfied with the containers listed, the driver uses a "Cancel" button (see FIG. 18) to return to the driver manifest screen without the proof of delivery signature. Upon returning to the

driver manifest screen, the driver delivers and/or undelivers containers as desired by the receiving agent of the stop.

If the receiving agent of the retail store accepts the delivery, the driver taps a “Signature box” on the signature collection screen to obtain the receiving agent’s signature as described at step of FIG. 5. Once the signature box has been selected, a scribble pad box appears on the signature collection screen as illustrated in FIG. 20. The receiving agent then signs their name on the graffiti area of the delivery device. The scribble pad box illustrates the signature written on the graffiti area. If the receiving agent approves of the signature, the driver taps a “Done” button to save the image as the proof of delivery. If the receiving agent wishes to redo their signature, the driver taps a “Clear” button to remove and redo the signature. After the receiving agent has accepted their signature, the display screen of the delivery device again displays the signature collection screen. On the signature collection page, the driver selects a name from the receiver list box corresponding to the receiving agent’s signature. If the receiving agent’s name is not in the receiver list box, the driver manually adds the name to the list by tapping a “+” button and entering the name. The driver may also remove a receiver name from the receiver list box with a “-” button. The driver may further correct the spelling of a receiving agent name in the list box with a “?” button.

After the signature has been captured and the receiving agent’s name selected from the list box, the driver taps an “OK” button to return to the driver manifest screen. The containers displayed for the stop are now flagged as signed (“\$”) and locked to prevent any modification to the delivery information record on the delivery device for those containers. Also, the receiving agent’s name is appended to the container string in the “Select Container” list box. For example, “[U3769637-FT-R-magill” represents that the half tote with prescription drugs having the container number U3769637 has been delivered and signed for by Mr. Magill.

The delivery device also coordinates the signature collection to reduce the chance of driver error. If the signature was captured but no receiving agent name was selected, the delivery device provides a warning message to prevent the driver from exiting the signature collection screen without confirming the intentional lack of the receiving agent name. Additionally, if the signature was not captured, the delivery device provides a warning message to prevent the driver from exiting the signature collection screen without confirming the lack of captured signature.

Upon returning to the driver manifest screen from the signature collection screen, the driver taps a “Complete” button to indicate that all of the containers for the stop have been

delivered and signed for. If there are containers for the stop that have not been delivered, the delivery device provides a nondelivery page as depicted in FIG.21. Upon realizing the nondelivered containers listed on the nondelivery page, the driver may return to the driver manifest screen to deliver those containers by tapping a "Cancel" button. Otherwise, the

5 delivery device requires the driver to indicate a status for each of the containers listed in a nondelivered list box. If all of the containers listed are to be flagged with the same status, the driver taps an "All Containers: Reason" list box and selects the appropriate status of "Missing," "Refused," "Closed," or "Other." If each container is to be flagged with a different status, the driver highlights one of the listed containers and uses a "Selected Cnt(s): Reason" list box to

10 enter the proper reason. If the driver selects the reason as "Other," the driver enters remarks at a "Remarks:" line. After all of the containers have been flagged with their appropriate status, the driver taps a "Done" button to return to the driver manifest screen.

The delivery device provides some additional features to further assist the driver with the deliveries. On the driver manifest screen as illustrated in FIG. 13 is a "Filter" checkbox. The

15 driver taps the checkbox to a filter setting to display in the "Select Container" list box only those containers that have not been delivered at the stop. This feature helps the driver identify whether containers are missing. Instead of requiring the driver to scroll through the entire "Select Container" list box, the "Select Container" list box with the filter setting only displays the containers that have not been delivered.

20 The delivery device also provides a pickup feature to maintain a record of any items received by the driver from the stop, such as customer returns, DEA blanks, empty containers and/or payments. On the driver manifest screen, the driver selects a "Pickup" button to display a pickup screen as illustrated in FIG. 22. The pickup screen lists the categories of returns to be received by the driver including "Return" for customer returns, "DEA" for DEA blanks, "Totes"

25 for a quantity of empty containers, "Check" for a payment, and "Other" for other items. For all categories, the driver first taps the button associated with the desired category and then enters the required information on an input line. After the driver has entered the appropriate information on the input line, the driver selects a "+" button to have the entry on the input line moved to the drop box to the right of the selected button. After the "+" button has been tapped, the driver may

30 again select one of the category buttons to enter other pickups including multiple entries for the same category. If the driver needs to remove one of the pickup entries, the driver selects one of the category buttons, highlights the entry in its drop box and taps a "-" button to delete that

pickup entry. Once all of the pickup entries are complete, the driver selects a "Done" button to save the pickup entries and to return to the driver manifest screen. The driver uses a "Cancel" button to return to the driver manifest screen without saving the pickup entries.

Each of the pickup categories requires specific information to be entered on the input
5 line. For "Return", the driver enters a unique return identification number corresponding to the item the retail store sends back to the distribution center. For "DEA", the driver enters a unique DEA blank number representing the narcotic the retail store sends back to the distribution center. For "Totes", the driver enters the quantity of empty container picked up from the retail store. The quantity of containers may be entered on the input line or with the drop box adjacent the
10 "Totes" button. For "Checks", the driver enters a check number and amount. For "Other", the driver enters a description of the item.

After the driver has completed the delivery and picked up any items for the stop, the driver selects the "Complete" button on the driver manifest screen (see FIG. 13). If all of the containers scheduled for the stop have been delivered or accounted for with reasons for being
15 undelivered, the driver device will present the next stop to be delivered. At the next stop, the driver performs the same tasks as described for the first stop. If the driver wishes to service a different stop than the one automatically provided by the deliver device, the driver selects the desired stop from the "Select Stop" list box. If the driver wishes to service a stop not listed on the select stop list box, the driver selects the "Info" button to obtain the stop information screen.
20 At the stop information screen, the driver may manually enter the desired stop and add it to the manifest with the "Add" button (see FIG. 15).

After the driver has completed all of the stops on the routes for the delivery vehicle, the driver returns to the distribution center at step of FIG. 5. At the distribution center, the driver uploads the delivery information gathered on the delivery device during the stops to the
25 distribution center computer system. The upload of the delivery information file occurs in the manner as described in conjunction with FIG. 6 for downloading. The delivery device is placed in the cradle and the information is uploaded to the distribution center computer system through cable.

After all of the deliveries have been completed, the delivery information on delivery
30 device includes records of the status of all the containers scheduled for delivery on the delivery vehicle along with proof of delivery signature and a date/time for each of the deliveries. The distribution center computer system uses the uploaded delivery information to update its

databases with the details of the completed deliveries. The distribution computer system archives the delivery information such that it may be easily queried and retrieved. FIG. 23 illustrates a search criteria screen for accessing delivery information stored within the distribution computer system databases. Delivery information may be searched for using the

5 fields of distribution center number, invoice date, trace identification, route number, stop number, invoice number, customer number, container type, driver name, courier name and status. FIG. 24 illustrates a sample search result for the delivery information. The displayed delivery information includes the invoice date, account number, invoice numbers, delivery date and time, proof of signature and summary of containers delivered.

10 The uploaded delivery information, maintained on the distribution center computer system, assists the distribution center track returned or refused containers. The delivery information may be used to coordinate billing the retail stores. Furthermore, the delivery information may be used to monitor the drivers' performance. With the captured date and time information, a supervisor can determine if a driver is making unscheduled stops or unnecessary

15 delays. The captured time information may also be used to improve the efficiency of the distribution system by assigning additional stops to the drivers. The detail record of the delivery information captured by the delivery device also provides tracking of controlled narcotics. In another embodiment, the distribution center computer system may provide the retail stores Internet access to the delivery information. With Internet access to the delivery information, the

20 retail store can access proof of delivery information, such as the date, time and who signed for the delivery.

The delivery device used in the distribution system of the present invention provides significant benefits. First, the delivery device provides paperless delivery tracking eliminating the typical paper manifests and proof of delivery signatures. The distribution system provides

25 superior delivery accuracy because the delivery device records the status of all of the containers on the delivery vehicle and coordinates the driver to their proper delivery with error messages. Additionally, the delivery device captures the date and time of the delivery and the name and signature of the receiving agent at the stop. This delivery information may be access by the retail stores via the Internet that eliminates the costly servicing of retail store inquiries by telephone

30 and facsimile.

In the distribution system, the retail store orders items from the distribution center and receives the ordered items delivered by the delivery vehicle. In another embodiment, a non-retail

entity orders and receives items. To coordinate the receiving and ordering operations of the retail store, the present invention provides a retail device as illustrated in FIG. 25. The retail device is similar to the delivery device with the Palm Computing platform incorporated in the rugged housing. The retail device also includes a barcode scanner, scanner button, display
5 screen and graffiti area as the delivery device. However, the retail device is programmed to assist the retail store or non-retail entity with the receiving and ordering operations of the distribution system rather than the delivery operations of the delivery device.

FIG. 26 generally illustrates the receiving operations performed by the retail store or other entity for one embodiment of the present invention. For receiving, the retail store
10 downloads shipment and invoice data from the distribution center computer system to a retail computer system at step. In one embodiment, the retail computer system runs a software packaged called EconoLink™ provided by McKessonHBOC, the assignee of the present application. The EconoLink™ software coordinates receiving and ordering items from the distribution center. The retail computer system may be a local server or stand-alone computer
15 located within or away from the retail store. In other embodiments where deliveries are made to entities other than retail stores, the retail computer system would be a computer system associated with the entity.

The distribution center computer system sends files containing shipment and invoice data to the retail store computer system. In one embodiment, the files are sent over the Internet. In
20 other embodiments, the files may be transferred by other communication mediums. After the retail computer system has obtained the shipment and invoice data, the shipment and invoice data is downloaded to the retail device at step. After the retail device has the shipment and invoice data, the retail device is ready to assist in the receipt of the ordered items. When the delivery vehicle arrives at the retail store, the driver of the delivery vehicle unloads the
25 containers specified for the retail store. A receiving agent or clerk uses the retail device to scan the barcode on the label of each of the container at step. After the container has been scanned, the receiving agent opens the container and scans each items' barcode to record receipt of the items in the container at step. Next the receiving agent reconciles the actual receipt of the ordered items to the shipment and invoice data on the retail device at step. After the received
30 items have been reconciled, the received item information on the retail device is uploaded to the retail computer system at step. In an alternative embodiment, the received item information may be transferred from the retail device to the distribution center computer system.

FIG. 27 generally illustrates the ordering operations performed by the retail store or other entity. For ordering, the ordering agent or clerk uses the retail device to scan the barcode of the desired item at step. Next, the ordering agent verifies the item description displayed on the retail device and enters a quantity of the item to order at step. After all of the desired items have been
5 ordered with the retail device, the ordering information on the retail device is uploaded to the retail computer system with the EconoLink™ software at step. The retail computer system then transmits the ordering information to the distribution center computer system at step. In an alternative embodiment, the ordering information may be transferred from the retail device directly to the distribution center computer system. After receiving the ordering information, the
10 distribution center computer system sends the retail computer system an acknowledgement of the received order at step.

FIG. 28 depicts one embodiment for downloading the shipment and invoice data and uploading the received item and ordering information to and from the retail device of steps in FIGS. 26 and 27. The retail device connects with a cradle through contacts (see FIG. 25). The
15 retail computer system connects to the cradle via cable. The shipment and invoice data, received item information and ordering information are communicated between the retail computer system and the retail device through the cable. In an alternative embodiment, the retail device wirelessly communicates with the retail computer system. With the wireless communications, the information may be downloaded and uploaded all at once or the retail computer system and
20 the retail device may frequently exchange information in real time. In an alternative embodiment, the information is communicated to a stand-alone computer with the cradle and cable. In another embodiment, the retail device communicates directly with the distribution center computer system.

The retail device coordinates the receiving and ordering operations described above in
25 conjunction with FIGS. 26 and 27. The illustrated embodiment depicts the retail device programmed for customers of McKessonHBOC, assignee of the present application. In other embodiments, the retail device may be programmed for drivers of other delivery or supply services. To provide these features, the retail device has a home screen depicted in FIG. 25. The home page screen provides the receiving agent and ordering agent of the retail store, or other
30 entity with the options of "Ordering," "Retail," "Receiving," "Search," "Prefs," "Returns," "Stickers," and "Inventory." The "Ordering" option allows the ordering agent or clerk to order items from the distribution center. The "Retail" option enables the clerk to change the retail

prices of items. The “Receiving” option allows the receiving agent to check in their orders. The “Search” option enables the ordering agent to search for items to order when their identification number is not readily known. The “Prefs” option allows the receiving agent, ordering agent and/or clerk to set preferences and defaults on the retail device. The “Returns” option enables the clerk to perform credit requests from delivered items. The “Stickers” option allows the clerk to request bar coded shelf tags or price stickers. The “Inventory” option enables the clerk to enter items and quantities for physical inventory verification. These options provided by the retail device will be discussed below.

If the “Prefs” option is selected on the home screen, the retail device provides a preference screen. The preference screen enables the receiving agent, ordering agent and/or clerk to customize the retail device’s default settings and other preferences. For the receiving preferences, the receiving agent may set the number of days to retain a purchase order. The receiving agent may also decide to have the prices or unit of measure displayed for the scheduled quantity. Additionally, the receiving agent may select whether to transfer all of the scheduled quantity (“Scan:All” mode) or just one of the scheduled quantity to the received quantity field (“Scan:One” mode) when one of the items is scanned. Furthermore, the receiving agent may select whether to never create, always create automatically or confirm whether to create an alternative bar code from a reference page when an invalid bar code is scanned.

For the ordering preferences, the ordering agent may store an account number on the retail device. The ordering agent may also set to have the quantity ordered automatically set to the average quantity purchased over the past year. Additionally, the ordering agent may set the quantity ordered to round to the desired percentage of a case. Furthermore, the ordering agent may have the retail device increment the existing quantity if the item is scanned more than once or the ordering agent may have the retail device replace the existing quantity if the item is scanned a second time.

After the retail device contains the invoice and shipment data of step of FIG. 26, the receiving agent is ready to receive deliveries from the delivery vehicle. The receiving agent uses the “Receiving” option on the home screen to enter a receiving screen of FIG. 29. The receiving agent selects a “PO List” box to ensure that the available purchase order numbers have been downloaded with the shipment and invoice information. The purchase order numbers on the “PO List” box will correspond to the invoices for the delivery. The receiving agent may select a listed purchase order number to begin receiving the delivery, or more conveniently, the receiving

agent just scans a barcode on the label of a delivered container to open the purchase order number automatically that corresponds to the delivered container. Once the purchase order has been selected, the receiving screen lists the corresponding account and department numbers. Additionally, the receiving agent may remove a purchase order from the "PO List" box by
5 highlighting the desired purchase order and tapping a "Del" button.

To receive the delivered containers, the receiving agent scans the barcode of the label of the container with the scanner of the retail device at step of FIG. 26. The retail device provides three receiving modes: 1) "Rec ALL" that enables every item in the container to be received without scanning each item, 2) "Scan:All" that enables all of the same items in the container to
10 be received by scanning only one of those items, and 3) "Scan:One" that enables requires the scanning of every item in the container. The receiving agent selects the "Rec:ALL" mode by tapping a "Rec All" button. To use the "Scan:All" mode or "Scan:One" mode, the receiving agent selects the desired mode in the receiving preferences as described above.

When the container's barcode is scanned, the receiving screen displays the barcode
15 number of the container at a unit line of the "All Units" drop box as illustrated in FIG. 30. The receiving screen also illustrates the number of "Lines" and pieces ("Pcs") that were invoiced in the scanned container at a scheduled ("Schd") field. The receiving screen also displays the number of "Lines" and pieces ("Pcs") that have been received for the scanned container at a received ("Rcvd") field. If the receiving agent wishes to quickly to record the receipt of the
20 items within the scanned container, the receiving agent sorts the container by each item counting the number of items to ensure the displayed numbers for the scheduled field conform to the number of items within the container. If the scheduled quantities match the quantities present within the container, the receiving agent selects the "Rec ALL" button to record the receipt of the items. Similar to delivery device recording delivery information, the retail device records
25 information regarding the receipt of the delivery.

The retail device assists the receiving agent to reduce the possibility of error. In the "Rec All" mode, the retail device may be configured to set a "high value" preference. With the "high value" preference, all containers and items with high dollar values would include a "[!]" label in the unit line. The "high value" preference instructs the receiving agent to individually scan the
30 barcodes of all high price items to specifically record the receipt of the expensive items before selecting a "Receive" button to record the receipt of the items.

In the "Scan:All" mode, the receiving agent receives the delivered/ordered items by scanning only one of each item within the container. When the barcode of the container label is scanned, the receiving screen displays the contents of the container in an "Item" list box as illustrated in FIG. 31. For the "Scan:All" mode, the receiving agent then scans the barcode of one of the items within the container to display that item's description on the top of the "Item" list box as displayed in FIG. 30. Additionally, the receiving screen displays the quantity invoiced for the scanned item at an item "Schd" field. Below the item "Schd" field is the item number and other item details such as unit size and case size. After counting the quantity of the scanned item present within the container, the receiving agent compares this number to the quantity scheduled on the item "Schd" field. If the quantity of item within the container matches the scheduled quantity, the receiving agent taps the "Receive" button to record the receipt of the items. If the quantity listed in the item "Schd" item field does not match the quantity within the container, the receiving agent enters the proper number directly within a item "Rcvd" field before tapping the "Receive" button. If the quantity on the item "Rcvd" field is incorrect, the receiving agent selects the item "Rcvd" field, taps a "Clear" button and scans each of those same items within the container. The receiving agent then continues to scan to the other items within the container until all items within the container have been recorded as received.

In the "Scan:One" mode, the receiving agent receives the delivery/order by scanning each and every item within the container. As explained above, when the barcode of the container label is scanned, the receiving screen displays the contents of the container in the "Item" list box. For the "Scan:One" mode, the receiving agent then scans the barcode of one of the items within the container to display that item's description on the top of the "Item" list box. Additionally, the receiving screen displays the item "Schd" field that reflects the quantity invoiced for the scanned item. Moreover, the item "Rcvd" field is incremented by one each time another same type of item is scanned. For large quantities, instead of scanning each item once to increment the received item field, the receiving agent may count the number of those items within the container and enter this quantity directly in the "Rcvd" field. Using the "Scan:One" mode allows the retail store to verify receipt of every item in the container by separately scanning each item's barcode. The "Scan:One" mode provides the greatest accuracy to insure all of the items invoiced are actually received at the retail store. After the receiving agent has scanned each of the items in the container and the received quantity is correct, the receiving agent presses the "Received" button to store the receipt information on the retail device.

When the barcode of the container label is scanned, the receiving screen displays the contents of the container in the “Item” list box as illustrated in FIG. 31. The “Item” list box displays descriptions of the items within the scanned container. In some embodiments, the unit of measure information or pricing information is also displayed. The items in the “Item” list box are listed alphabetically and include a status field enclosed by brackets. Items with an “[*]” have already been scanned, correct quantity identified and received; otherwise, the items listed without the “[]” have not been received.

The retail device includes features to assist the receiving agent to reduce the possibility of error. One such feature is a filter feature. Once the receiving agent has scanned all of the scannable items in the container, the receiving agent uses a “Filter Off/On” feature on the retail device. By selecting the “Filter Off/On” button to the “On” setting, only the items not yet received and items with discrepancies will be displayed in the “Item” list box. Some items in the container may not be scannable, so the receiving agent manually selects those items on the “Item” list box. When an item is selected, the description, receiving quantity and other information will appear on the receiving screen in the same manner as for scanned items. After manually selecting the unscanned item, the receiving agent validates the quantity and records the receipt of the item with the “Receive” button in the same manner as for scanned items. Once all of the items in the container have been selected, their quantities validated and receipt recorded, the container will be flagged with the “[*]” at the “Units” line illustrated in FIG. 32.

The retail device also provides a find feature to help the receiving agent find items not yet received. By tapping a “?” button, the retail device displays a find screen as depicted in FIG. 33. On the find screen, the receiving agent enters the item description, the UPC/NDC number or the Economost™ item reference number used by the distribution system of the item to find. If searching by the item description, only the first couple of letters need to be entered as shown in FIG. 33 with “asp” for aspirin. Once the description or number(s) have been entered, the receiving agent selects a “Find” button and the available matches, if any, are displayed in a “Matches” list box as illustrated in FIG. 34. If one of the matches corresponds to the desired item, the receiving agent selects that item from the “Matches” list box.

After selecting one of the matches, the find screen displays the item description on the top line of the “Matches” list box. The find screen also lists the container holding the listed quantity of that item below the top line of the “Matches” list box as illustrated in FIG. 35. For example, the displayed “[]0000000RXH-1::U333333 (9EA)” represents that nine Aspirin with

the item number 0000000RXH-1 are found in container number U333333. Once the item is found, the receiving agent has four options. The receiving agent then may select a “Goto” button that will carry this item back to the receiving screen where the receiving agent may record the receipt of the item. The receiving agent may select a “Recv” button that records the receipt of the item at the find screen. The receiving agent may select a “Clear” button to initiate a new find search, and the receiving agent may tap an “OK” button to go back to the receiving screen without the search results.

Some items within the scanned container may have a damaged or missing barcode. These items are placed to the side until the remainder of the delivery has been received. The receiving agent then manually enters their receipt on the retail device using the “Filter On” feature to identify items not yet received. Additionally, some items may have barcodes when scanned that are not identified by the retail device. The receiving agent may add the unrecognized bar code to the database by scanning the bar code and then selecting the item from the “Item” list box and tapping the “Schd” field.

To reduce errors in the receiving process, the retail device provides a warning if a scanned item from the delivery does not match any of the items on the purchase order. If the scanned barcode does not match any ordered item, a warning beep sounds and the item will not appear on the top line of the “Item” list box of the receiving screen. The item in the container may have been incorrectly placed in the container by the distribution center. To fix this discrepancy, the receiving agent uses a “Returns” option on the home page as will be described below.

After the receiving agent has scanned all of the items in the container, the receiving agent uses the retail device to find any discrepancies. By using the filter feature, only the items that have not been recorded as received will be displayed in the “Item” list box. Discrepancies include both items that were not received and items whose quantities received did not agree with the purchase order quantities. Items that were not included will have the status flag “[?]” in the “Item” list box. The receiving agent should review these discrepancies before completing the receiving process for the container. If discrepancies are present, the bracket next to the unit number of the container on the top line of the “Unit” list box will contain a number sign “[#].”

The receiving agent performs the receiving process for each container of the order. After all of the containers have been received and any discrepancies reviewed, the receiving agent selects a “Submit” button to lock in the record on the retail device of the received items and

quantities. After pressing the "Submit" button, the PO status flag is set to "[*]", and the retail device will not accept any further modifications concerning the purchase order. After the "Submit" button is tapped, the retail device displays the home screen.

After all of the containers have been received, the receiving agent uploads the receiving information on the retail device to the retail computer system running the EconoLink™ software. In another embodiment, the receiving information is uploaded to a stand-alone computer. The uploading is performed as described above in conjunction with FIG. 28. After the receiving information has been received on the retail computer system, the receipts and discrepancies from the delivery may be searched and viewed with the EconoLink™ software in a similar manner as described in conjunction with FIGS. 23 and 24.

The receiving procedures for the distribution system of the present invention provide significant advantages. The retail device increases the productivity and accuracy of the receiving agent receiving the delivered items. The retail device allows the deliveries to be quickly reviewed and validated. The retail device also reduces the training required for the receiving agent. Moreover, the retail device maintains the electronic record that may be searched and consulted when reviewing billing information.

The retail device also coordinates the ordering procedures for the retail store or other entity. By selecting the "Ordering" option on the home page screen, the order creation screen appears on the display screen of the retail device as depicted in FIG. 36. To start a new purchase order, the ordering agent highlights a "New PO" line and then selects an "Edit" button. To resume a previously prepared but non-finalized purchase order, the ordering agent highlights the desired purchase order in a "PO" list box and selects the "Edit" button. Non-finalized orders are marked "EDT" in the "PO" list box. After the "Edit" button has been selected, the retail device displays a PO direct entry screen (hereinafter "ordering screen") as depicted in FIG. 37. The ordering screen displays an account number and department number for the retail store or entity that correspond to the account and department numbers used with the EconoLink™ software or stand alone numbers. These numbers may be selected from their drop down lists. If the purchase order is new, the ordering agent enters a purchase order name or number at a "Enter PO:" line to identify the purchase order. The ordering agent may enter any name or number such as "12345" as shown in FIG. 37.

To generate the purchase order, the ordering agent uses the scanner on the retail device to scan the Economost™ number barcode from the shelf labels or the UPC/NDC from the barcodes

on the actual items at step of FIG. 27. The retail device automatically recognizes each kind of barcode and their associated item. In one embodiment, the retail module includes an electronic catalog containing historical data on what the customer has order in the past. If the scanned item is included in a retail store's database, the item information will be displayed as shown in FIG.38
5 at item line. The item information includes the item description and unit of measure information. For example, the displayed "Econ: 2471811 Accuzyme 30 gm" represents that the Economost™ number is 2471811 which corresponds to 30 gm Accuzymes. Items, included in the retail store's database, are items ordered within the last year. If the scanned item is not in the database, the retail device displays a message "<NOT IN DEVICE DATABASE>" below item line as shown
10 in FIG. 39. Even when this message appears, if the item is available from the distribution center, the order will be accepted, and the item information will be listed on the purchase order imported to the retail computer system with the EconoLink™ software.

The retail device provides two preferences for determining the quantities to order for the scanned item. One preference is a "Use Average" method that automatically suggests order
15 quantities in a quantity field based on an average quantity of the item ordered in each shipment over the last year. In the other preference, the quantity field is left blank and the quantity will be incremented by one each time the item's barcode is scanned. The ordering agent uses the keyboard of Graffiti area to directly enter or change a quantity of the scanned item. To further assist with ordering, the retail device displays the average quantity ordered for that item at an
20 "Av" line and the frequency at which the item was order during the last year at a "Fr" line.

As the ordering agent scans the bar codes of items to order, the most recently ordered items will be displayed in an order summary list box as illustrated in FIG. 40. The order summary list box displays the item description and quantity ordered. Highlighting items in the order summary list box will display additional item details. Also, more details regarding the
25 highlighted item can be displayed by selecting a "Detail" button to provide an item detail screen similar to the one illustrated in FIG. 43.

The ordering agent may modify ordered items listed in the ordered summary list box. By highlighting the ordered item in the ordered summary list box, the ordered quantity may be incremented by pressing an "Add" button 428. A "Del" button is used to remove the highlighted
30 item from the order. If an item is not scannable, the ordering agent may manually enter the UPC/NDC bar code or Economost™ number by entering the number on the item line and

tapping the “Add” button. Prior to entering the number, the ordering agent enters whether the number is the UPC/NDC or Economost™ number.

The retail device provides features to assist with the ordering procedures. The ordering screen provides a “CS” check box. When a check appears in the “CS” check box, the order will
5 be placed in cases instead of the default of individual items. For the “CS” mode, the default quantity will be one case. The order screen also provides a “Nsub” check box. The “Nsub” check box may be checked to instruct the distribution center not to substitute a different item for the item ordered. The order screen also provides a “Retail” list box. With the “Retail” list box, the ordering agent of the retail store requests the distribution center to change the retail or list
10 price printed on the stickers shipped with the ordered item. To change the price associated with the ordered item, the ordering agent highlights one of the price categories and then enters in the new price. The retail price change requests will be described below in conjunction with the “Retail” option on the home screen.

When the ordering agent has ordered all of the desired items, the ordering agent reviews
15 the purchase order by scrolling through the order summary list box. If the purchase order should be placed with the distribution center, the ordering agent selects a “Done” button to lock in the purchase order stored on the retail device. Once the “Done” button has been tapped, the retail device returns to the order creation screen. To return to the order creation screen without saving the order entries, the ordering agent taps a “Clear” button.

20 After purchase order has been entered on the ordering screen, the order creation screen will display the purchase order record as shown in FIG. 36. The order creation screen displays the status (“Sts”) of “EDT” for edited purchase orders or “SND” for purchase orders sent to the retail computer system. The order creation also displays the number of lines (“Lns”), number of pieces (“Ps”), purchase order number (“P.O.”), and the date of the inventory grouping (“DT”) for
25 the purchase order record. If the ordering agent wishes to send the purchase order record to the retail computer system, the ordering agent highlights the purchase order record and taps a “Send” button. The system of FIG. 28 is used to send the purchase order record to the retail computer system. In another embodiment, the purchase order record uploaded to a stand-alone computer. Once the purchase order has been sent, the status field changes from “EDT” to “SND.” To
30 delete the purchase order record, the ordering agent highlights the purchase order and taps a “Del” button. The order creation screen also provides a “Info” button that provides instructions on the ordering procedures.

Once the retail computer system or stand-alone computer receives the purchase order, a manager may review the contents of the purchase order. If the purchase order contains the correct items to order from the distribution center, the purchase order is transmitted to distribution center. In one embodiment, the retail computer system uses the EconoLink™ software that coordinates transmission of the purchase order to the distribution center computer system via the Internet. Once the distribution center computer system receives the purchase order, the distribution center computer system sends the retail computer system an acknowledgement of the receipt of the purchase order by email. In another embodiment, the distribution center computer system sends a stand-alone computer associated with the ordering agent the email. In other embodiments, the purchase order transmission and acknowledgment may be done with any type of communication such as facsimile or mail.

In one embodiment, the retail module allows the customer or retail store to create and save purchase order templates for standard, regularly ordered items. For example, if a retail store orders the same items every week, the ordering agent may create a purchase order template including the items and quantities typically ordered. With the template, the ordering agent does not need to scan or select items. Rather, the items and quantity are already listed in the purchase order template. The ordering agent simply reviews the items and quantities listed on the template and makes any desired changes to create a new purchase order.

In one embodiment, the ordering agent creates the purchase order template by selecting a previously created purchase order and setting its status as a template. The status may be set for a highlighted purchase order listed on the order creation screen by tapping a "Temp" button (not shown). In other embodiments, the template may be created with the retail computer system or with a stand-alone computer system and downloaded onto the retail module. Purchase order templates are marked "TEMP" in the "PO" list box.

If the ordering agent wishes to use the purchase order template, the ordering agent highlights the desired template in the "PO" list box on the order creation screen and then selects an "Edit" button. After the "Edit" button has been selected, the retail device displays the ordering screen. On the ordering screen, the ordering agent enters a purchase order name or number at the "Enter PO:" line to identify the new purchase order being created using the template. Instead of scanning or selecting items to order, the ordering agent reviews the items and quantities listed in the order summary list box on the template. The ordering agent may change the listed quantities, remove items or add items in the manner described above. After all

of the desired items are included in the purchase order created from the template, the ordering agent selects the “Done” button as described above. The newly created purchase order may be uploaded to the retail computer system or a stand-alone computer system as described above.

If the “Search” option was selected on the home screen, the retail device will display a
5 find screen as illustrated in FIG. 41. The item search feature on the retail device is similar to the find feature in the receiving feature of the retail device. The item search feature allows the clerk or anyone using the retail module to find items by entering item description, the UPC/NDC number, the Economost™ number, generic code or therapeutic code. If searching by the item description, only the first couple of letters need to be entered as shown in FIG. 41 with ge. The
10 clerk may also set the search criteria with the search criteria drop box. The search criteria drop box list search options including any, item description, Economost™ number, UPC, NDC, generic code, and therapeutic code.

Once the description or number(s) and search criteria have been entered, the receiving agent taps a “Find” button and the available matches, if any, are displayed in an matches list box
15 as illustrated in FIG. 42. To begin a new search, the clerk selects a “Clear” button. The clerk exits the item search feature by tapping a “Done” button. By highlighting one of the listed matches and tapping a “Detail” button, the retail device displays an item detail screen as illustrated in FIG. 43. The item detail screen provides the Economost number, UPC number, NDC number, local identifier, generic code, therapeutic code and orange book code.
20 Additionally, the item detail screen lists the price of the item, the minimum quantity orderable, the average ordered quantity, the date of the last order and the number of orders for this item per year. The clerk may capture the information from the item search and transfer the highlighted item to the order screen. In one embodiment, the clerk selects an “Order” button (not shown) to transfer the highlighted item to the ordering screen. In an alternative embodiment, the clerk may
25 use the copy and paste features of the Palm Computing platform to transfer the item to the order screen.

The ordering procedures for the distribution system of the present invention provide significant advantages. The retail device improves the productivity and accuracy of the retail store. The ordering procedures with the retail device provide faster and easier training of
30 personnel. The retail device reduces the likelihood of erroneous orders because the retail device provides the last date ordered and average quantity ordered for the item. The retail device also provides extensive item details on the screens allowing the ordering agent to easily verify the

desired item. The retail device is also very portable allowing the ordering agent to roam freely about the retail store to generate the order.

If the "Inventory" option was selected on the home page screen, the clerk or anyone associated with the entity performs an inventory process with the retail device. FIG. 44

5 generally illustrates one embodiment of the inventory procedures performed with the retail device 300. First, the clerk selects an existing inventory record to modify or creates a new inventory record on the retail device at step. Next, the clerk scans the barcode of an item at step. At step, the clerk verifies the item description displayed on the retail device and enters a quantity of the item as inventory. After all of the desired items have been entered as inventory with the
10 retail device, the inventory information on the retail device is uploaded to the retail computer system at step. In an alternative embodiment, the inventory information on the retail device may be uploaded to a stand-alone computer.

When the "Inventory" option is selected on the home screen, the retail device displays a inventory main screen as illustrated in FIG. 42. On the inventory main screen, the clerk may
15 create a new inventory record or access an existing inventory record. To edit an existing inventory record, the clerk highlights one of the listed inventories under a "New Inventory" line 480 and taps an "Edit" button to display an inventory header screen as will be described in conjunction with creating a new inventory record. To create the new inventory record, the clerk highlights the "New Inventory" line and taps a "Edit" button to display an inventory header
20 screen as illustrated in FIG. 46. For the inventory record, the clerk selects the proper account number from an "Acct" drop box, selects the proper department number from a "Dept" drop box and selects the user name from a "User" drop box. These drop boxes are populated with the appropriate numbers and identifiers for the retail store as used with the Econolink™ software on the retail computer system. To return to the inventory main screen, the clerk taps a "Done"
25 button on the inventory header screen.

On the inventory header screen, the clerk enters a reference number at a "Reference #" line to identify the inventory record. The clerk then enters whether the inventory type is an opening, closing or value type inventory from an "Inventory Type" drop box. After entering the type of inventory, the clerk taps a "Inventory" button to display an inventory entry screen as
30 illustrated in FIG. 47. On the inventory entry screen, the clerk performs the inventory entries for the selected department with the scanner on the retail device. The clerk simply scans the barcodes from the shelf labels for the Economost™ numbers or the UPC/NDC barcodes on the

actual items. The retail device automatically recognizes each kind of barcode and their associated item.

If the scanned item is included in a retail store's database, the item information, including product identifier (either Economost™ number or UPC/NDC number), product description, unit
5 of measure, case size, and last order date, will be displayed in an item information field. If the scanned item is not in the database, the retail device displays a message "<NOT IN DEVICE DATABASE>" in the item information field. Even when this message appears, if the item is available from the distribution center, the inventory record will be accepted. After checking the item information to verify that this is the item, the clerk enters a quantity of the item in a quantity
10 ("Qty") field. The inventory entry screen includes a keyboard to assist the clerk with entering numbers for the inventory process. After the quantity of the item has been entered, the inventory entry screen displays the value of the inventory item at a "Value" field.

In addition to scanning barcodes, the clerk may manually enter the Economost™ number or UPC/NDC number of the item directly on an item line using the keyboard or graffiti area of
15 the retail device. Prior to entering the item number, the clerk sets whether the number is the Economost™ number or UPC/NDC number using a drop box. After verifying that the item number is correct, the clerk enters a quantity of the listed item in the "Qty" field. To ensure that the scanned item or manually entered number matches the inventory item, the clerk taps a "Detail" button to display an item detail screen as illustrated in FIG. 48. The item detail screen
20 provides the Economost™ number, UPC number, NDC number, local identifier, generic code, therapeutic code and orange book code. Additionally, the item detail screen lists the list price of the item, the minimum quantity orderable, the average ordered quantity, the date of the last order and the number of orders for this item per year. When the clerk finishes reviewing the item detail screen, the clerk taps a "Done" button (not shown) to return to the inventory entry screen.

25 After reviewing the item details and entering the quantity of the item, the clerk taps an "Add" button to add an entry corresponding to this item to the inventory record. If the clerk wishes to remove this item entry from the inventory record, the clerk taps a "Del" button. To continue with the inventory process, the clerk scans more items and updates their quantities. The clerk may review previous inventory entries by using the arrows on the second page of the
30 inventory entry screen to see the description of those previous inventory entries. To complete the inventory entries and save the entered information, the clerk taps a "Done" button to return to the inventory main screen. If the clerk wishes to return to the inventory main screen without

saving the inventory entries, the clerk taps a "Clear" button. To return to the inventory header screen, the clerk taps a "Header" button on the inventory entry screen.

The retail device provides features to assist in the inventory procedures. The inventory entry screen provides a "ChkItm" check box. If the "ChkItm" box is selected, the retail device
5 300 checks for duplicate entries of the same item. If an item is scanned and/or manually entered more than once, the retail device either adds one to the prior quantity or replaces the prior quantity with a newly entered quantity depending on the preferences set for the retail device. The retail device also provides a "(-)" check box. If the "(-)" box is selected, the quantity entered by the clerk will to subtracted from the previous inventory quantity for the item.

10 After all of the inventory entries have been entered on the inventory entry screen and the "Done" button selected, the inventory main screen displays the newly entered inventory record as shown in FIG. 45. The inventory main screen displays the status ("Sts") "EDT" for edited inventory record or "SND" for sent inventory record. The inventory main screen also displays the number of lines ("Lns"), number of pieces ("Ps"), purchase order number ("P.O."), and the
15 date of the inventory grouping ("DT"). If the clerk wishes to send the inventory record to the retail computer system or a stand-alone computer, the clerk highlights the inventory record and taps a "Send" button. The inventory record is sent to the retail computer system or the stand-alone computer using the system described above in conjunction with FIG. 28. Once the inventory record has been sent, the status field changes from "EDT" to "SND." To delete the
20 inventory record, the clerk highlights the inventory record and taps a "Del" button. The inventory main page also provides a "Info" button that provides instructions on the inventory procedures.

The inventory procedures for the distribution system of the present invention provide significant advantages. The retail device improves the productivity and accuracy of the retail
25 store. The inventory procedures with the retail device provide faster and easier training of personnel. The retail device reduces the likelihood of erroneous inventory numbers because the retail device provides inventory records with the last date ordered and average quantity ordered for the item. The retail device also provides extensive item details on the screens allowing the clerk to easily verify the inventory item. The retail device is also very portable allowing the
30 clerk to roam freely about the retail store to generate the inventory. Moreover, management of the retail store can readily access and review the inventory records on the retail store computer system.

If the "Returns" option was selected on the home page screen, the clerk or anyone associated with the entity performs a returns process with the retail device. FIG. 49 generally illustrates one embodiment of the returns procedures performed with the retail device. First, the clerk of the retail store selects an existing returns record to modify or creates a new returns
5 record on the retail device at step. Next, the clerk scans the barcode of a return item at step. At step, the clerk verifies the item description displayed on the retail device and enters a reason for the return. After all of the desired items have been entered as returns with the retail device, the returns information on the retail device is uploaded to the retail computer system at step. In an alternative embodiment, the returns information may be transferred directly from the retail
10 device to the distribution center computer system or a stand-alone computer.

When the "Returns" option is selected on the home screen, the retail device displays a returns main screen as illustrated in FIG. 50. On the returns main screen, the clerk may create a new returns record or edit an existing credit returns record. To edit the existing returns record, the clerk highlights one of the listed returns under a "New Return" line and taps an "Edit" button
15 to display a returns header screen as will be described in conjunction with creating a new returns record. To create the new returns record, the clerk highlights the "New Return" line and taps the "Edit" button to display the returns header screen as illustrated in FIG. 51. The clerk selects the proper account number from an "Acct" drop box and selects the proper department number from a "Dept" drop box. These drop boxes are populated with the appropriate numbers the retail store
20 as used with the Econolink™ software on the retail computer system.

On the returns header screen, the clerk enters a four digit reference number and a two digit sequence number at a "Reference #" line to identify the returns record. After entering the reference number and sequence number, the clerk taps a "Returns" button to display a returns entry screen as illustrated in FIG. 52. If the clerk wishes to go back to the returns main screen,
25 the clerk taps a "Done" button. On the returns entry screen, the clerk enters the return items for the selected department with the scanner on the retail device. The clerk simply scans the barcodes for the Economost™ numbers from the shelf labels or the UPC/NDC barcodes on the actual items. The retail device automatically recognizes each kind of barcode and their associated item.

30 If the scanned item is included in a retail store's database, the item information, including product identifier (either Economost™ number or UPC/NDC number), product description, unit of measure, case size, and last order date, will be displayed in an item information field. If the

scanned item is not in the database, the retail device displays a message “<NOT IN DEVICE DATABASE>” in the item information field. Even when this message appears, if the item is available from the distribution center, the returns record will be accepted. After checking the item information, the clerk enters a quantity of the return item in a “Qty” field. The returns entry
5 screen includes a keyboard to assist the clerk with entering numbers for the returns process. After the quantity of the item has been entered, the returns entry screen displays the value of the return items at a value “\$” field.

In addition to scanning barcodes, the clerk may manually enter the Economost™ number or UPC/NDC number of the return item directly on an item line using the keyboard or graffiti
10 area of the retail device. Prior to entering the item number, the clerk sets whether the number is the Economost™ number or UPC/NDC number using the drop box. The clerk then enters a quantity of the return item in the quantity field.

To ensure that the scanned item or manually entered number matches the return item, the clerk taps a “Detail” button to display an item detail screen similar to the order detail screen
15 illustrated in FIG. 48. The item detail screen provides the Economost™ number, UPC number, NDC number, local identifier, generic code, therapeutic code and orange book code. Additionally, the item detail screen lists the price of the item, the minimum quantity orderable, the average ordered quantity, the date of the last order and the number of orders for this item per year. When the clerk finishes reviewing the item detail screen, the clerk taps a “Done” button to
20 return to the returns entry screen.

After reviewing the item details and entering the quantity of the return item, the clerk uses a return reason drop box to display a list of reasons for the return as illustrated in FIG. 52. The clerk highlights one of the reasons from the return reason drop box and then enters an invoice number at the “Inv#” line. If an invoice date is required by the distribution center for the
25 return, the clerk uses month, day and year drop boxes to enter the invoice date.

After ensuring the information entered for the return is correct, the clerk taps an “Add” button to add this item to the returns record. If the clerk wishes to remove this item from the returns record, the clerk taps a “Del” button. To continue with the returns process, the clerk scans more items, enters the required return information. The clerk may review previous return
30 entries by using the arrows (not shown) on the second page of the returns entry screen to see the description of those previous return entries. To complete the return record and save the entered information, the clerk taps a “Done” button to return to the returns main screen. If the clerk

wishes to return to the returns main screen without saving the returns entries, the clerk taps a "Clear" button. To return to the returns header screen, the clerk taps a "Header" button.

After the returns have been entered and saved with the returns entry screen, the returns main screen will display the returns record as shown in FIG. 50. The returns main screen displays the status ("Sts") of "EDT" for edited returns record or "SND" for sent returns record. The returns main screen also displays the number of lines ("Lns"), number of pieces ("Ps"), returns number ("Returns #"), and the date of the returns record ("DT"). If the clerk wishes to send the returns record to the retail computer system or a stand-alone computer, the clerk highlights the returns record and taps a "Send" button. The returns record is sent to the retail computer system or the stand-alone computer using the system described in conjunction with FIG. 28. Once the returns record is sent, the status field changes from "EDT" to "SND." To delete the returns record, the clerk highlights the returns record and taps a "Del" button. The returns main page also provides an "Info" button that provides instructions on the returns procedure.

The returns procedures for the distribution system of the present invention provide significant advantages. The retail device improves the productivity and accuracy of the retail store. The returns procedures with the retail device provide faster and easier training of personnel. The retail device reduces the likelihood of erroneous returns because the retail device provides returns records with the invoice number and date for the item. The retail device also provides extensive item details on the screens allowing the clerk to easily verify the return item. The retail device is also very portable allowing the clerk to roam freely about the retail store to generate the returns. Moreover, once the retail store computer system has the returns record, the returns record may be transferred to the distribution center computer system. The returns procedures improve the tracking of returned items and allows the retail store to be readily credited for those items.

If the "Retail" option was selected on the home page screen, the clerk or anyone associated with the entity performs a retail price change process with the retail device. FIG. generally illustrates one embodiment of the retail price change procedures performed with the retail device. First, the clerk of the retail store selects an existing retail record to modify or creates a new retail record on the retail device at step. Next, the clerk scans the barcode of a return item at step. At step, the clerk verifies the item description displayed on the retail device and enters a price change for the item. After all of the desired items have had their prices

changed with the retail device, the retail price change information on the retail device is uploaded to the retail computer system at step. In an alternative embodiment, the retail price change information may be transferred from the retail device directly to the distribution center computer system or a stand-alone computer.

5 When the “Retail” option is selected on the home screen, the retail device displays a returns main screen as illustrated in FIG. 55. On the returns main screen, the clerk may change the prices of items with the retail device. To edit an existing retail record, the clerk highlights one of the listed retail records under a “New Retail Change” line and taps an “Edit” button to display a retail header screen as will be described in conjunction with creating a new retail
10 record. To create the new retail record, the clerk highlights the “New Retail Change” line and taps the “Edit” button to display the retail header screen as illustrated in FIG. 56. The clerk selects the proper account number from an “Acct” drop down list which is populated with the appropriate numbers the retail store as used with the Econolink™ software on the retail computer system. The clerk then taps a “Retail” button to display a retail entry screen as illustrated in
15 FIG. 57. If the clerk wishes to go back to the retail main screen, the clerk taps a “Done” button.

 On the retail entry screen, the clerk enters the retail price change for items with the retail device. The clerk simply scans the barcodes from the shelf label for the Economost™ number or the barcode on the item for the UPC/NDC numbers. The retail device automatically recognizes each kind of barcode and their associated item. If the scanned item is included in a retail store’s
20 database, the item information, including product identifier (either Economost™ number or UPC/NDC number), product description, unit of measure, case size, and last order date, will be displayed in an item information field. If the scanned item is not in the database, the retail device displays a message “<NOT IN DEVICE DATABASE>” at the item information field. Even when this message appears, if the item is available, the retail price change will be accepted.
25 After checking the item information, the clerk enters a dollar and cent amount for a new retail price for the item at a “Lockin \$”. The retail entry screen includes a keyboard to assist the clerk with entering numbers for the retail price change process.

 In addition to scanning barcodes, the clerk may manually enter the Economost™ number or UPC/NDC number of the item directly on an item line using the keyboard or graffiti area of
30 the retail device. Prior to entering the item number, the clerk sets whether the number is the Economost™ number or UPC/NDC number using a drop box.

To ensure that the scanned item or manually entered number matches the item to retail price change, the clerk taps a “Detail” button to display an item detail screen illustrated in FIGS. 58a and 58b. The item detail screen provides the Economost™ number, UPC number, NDC number, local identifier, generic code, therapeutic code, orange book code, and the unit price of the item. Additionally, the item detail screen lists the minimum quantity orderable, the average ordered quantity, the date of the last order, the size of the item, the units of measurement, the number of units in a case, the RXDA number, the return code, and whether the item is generic. When the clerk finishes reviewing the item detail screen, the clerk taps a “Done” button to return to the retail entry screen.

After reviewing the item details and entering the price change for the item displayed, the clerk taps an “Add” button to add this price change entry to the retail record. If the clerk wishes to remove this entry from the retail record, the clerk taps a “Del” button. To continue with the retail price change process, the clerk scans more items, enters the new prices. The clerk may review previous retail entries by using the arrows on the second page of the retail entry screen to see the description and price of those previous retail entries as illustrated in FIG. 59. The single arrows move up or back one entry, and the double arrows move to the top or end of the list.

To complete the retail record and save the entered information, the clerk taps a “Done” button to return to the retail main screen. If the clerk wishes to return to the retail main screen without saving the retail entries, the clerk taps a “Clear” button. To perform an item search as described above, the clerk taps a “Find” button. The retail entry page also provides an “Info” button that provides instructions on the retail procedures.

After the retail price changes have been entered on the retail entry screen, the retail main screen will display the retail records as shown in FIG. 55. The retail main screen displays the status (“Sts”) of “EDT” for edited retail records or “SND” for sent retail records. The retail main screen also displays the number of lines (“Lns”) and the date of the retail record (“DT”). If the clerk wishes to send the retail record to the retail computer system or a stand-alone computer, the clerk highlights the retail record and taps a “Send” button. The retail record is sent to the retail computer system or a stand-alone computer using the system described in conjunction with FIG. 28. Once the retail record is sent, the status field changes from “EDT” to “SND.” To delete the retail record, the clerk highlights the retail record and taps a “Del” button. The retail main page also provides an “Info” button that provides instructions on the retail price change procedures.

The retail price change procedures for the distribution system of the present invention provide significant advantages. The retail device improves the productivity and accuracy of the retail store. The retail price change procedures with the retail device provide faster and easier training of personnel. The retail device reduces the likelihood of erroneous orders because the retail device provides retail records with the price change and date for the price change. The retail device also provides extensive item details on the screens allowing the clerk to easily verify the retail price change item. The retail device is also very portable allowing the clerk to roam freely about the retail store to generate the retail price changes. Moreover, once the retail store computer system has the retail record, the retail record may be transferred to the distribution center computer system. Once the distribution center computer system has the retail record, the distribution center changes the prices on the labels attached to the items that will be delivered to the retail store or the stickers supplied to the retail store. The retail price change procedures improve the tracking of price change requests and allows the retail store readily change the prices of item from the distribution center.

If the “Stickers” option was selected on the home page screen, the clerk or anyone associated with the entity performs a sticker request process with the retail device. FIG. 60 generally illustrates one embodiment of the sticker request procedures performed with the retail device. First, the clerk of the retail store selects an existing sticker record to modify or creates a new sticker record on the retail device at step. Next, the clerk scans the barcode of an item needing a sticker at step. At step, the clerk verifies the item description displayed on the retail device and a quantity of stickers for the item. After all of the stickers have been ordered for the desired items with the retail device, the sticker request information on the retail device is uploaded to the retail computer system with the EconoLink™ software at step. In an alternative embodiment, the sticker request information may be transferred from the retail device directly to the distribution center computer system or a stand-alone computer.

When the “Sticker” option is selected on the home screen, the retail device displays a sticker main screen as illustrated in FIG. 61. On the sticker main screen, the clerk begins the sticker request process. To edit an existing sticker record, the clerk highlights one of the listed sticker records under a “New Stickers” line and taps an “Edit” button to display a sticker header screen as will be described in conjunction with creating a new stickers record. To create the new stickers record, the clerk highlights the “New Stickers” line and taps the “Edit” button to display the sticker header screen as illustrated in FIG. 62. The clerk selects the proper account number

from an “Acct” drop down list which is populated with the appropriate numbers the retail store as used with the Econolink™ software on the retail computer system. The clerk then selects the desired sticker type, either shelf or price, from a sticker type drop box. After selecting the sticker type, the clerk taps a “Sticker” button to display a sticker entry screen as illustrated in FIG. 63.

- 5 If the clerk wishes to go back to the sticker main screen, the clerk taps a “Done” button.

On the sticker entry screen, the clerk enters the items that need stickers with the retail device. The clerk simply scans the barcodes from the shelf labels for the Economost™ numbers or the barcodes on the actual items for the UPC/NDC numbers. The retail device automatically recognizes each kind of barcode and their associated item. If the scanned item is included in a retail store’s database, the item information, including product identifier (either Economost™
10 number or UPC/NDC number), product description, unit of measure, case size, and last order date, will be displayed in an item information field. If the scanned item is not in the database, the retail device displays a message “<NOT IN DEVICE DATABASE>” in the item information field. Even when this message appears, if the item is available, the sticker record will be
15 accepted. After checking the item information, the clerk enters a quantity of stickers for the item at a “Qty” field that defaults to one. The sticker entry screen includes a keyboard to assist the clerk with entering numbers for the sticker request process.

In addition to scanning barcodes, the clerk may manually enter the Economost™ number or UPC/NDC number of the item directly on an item line using the keyboard or graffiti area of
20 the retail device. Prior to entering the item number, the clerk sets whether the number is the Economost™ number or UPC/NDC number using a drop box.

To ensure that the scanned item or manually entered number matches the sticker item, the clerk taps a “Detail” button to display an item detail screen similar to the one illustrated in FIGS. 58a and 58b. The item detail screen provides the Economost™ number, UPC number, NDC
25 number, local identifier, generic code, therapeutic code, orange book code, and the unit price of the item. Additionally, the item detail screen lists the minimum quantity orderable, the average ordered quantity, the date of the last order, the size of the item, the units of measurement, the number of units in a case, the RXDA number, the return code, and whether the item is generic. When the clerk finishes reviewing the item detail screen, the clerk taps a “Done” button to return
30 to the sticker entry screen.

After reviewing the item details and entering the quantity of stickers requested, the clerk taps an “Add” button to add a sticker entry for this item to the sticker record. If the clerk wishes

to remove this item from the sticker record, the clerk taps a “Del” button. To continue with the sticker request process, the clerk scans more items, enters the type and quantity of stickers requested. The clerk may review previous sticker entries by using the arrows on the second page of the sticker entry screen.

5 To complete the sticker entries and save the entered information, the clerk taps a “Done” button to return to the sticker main screen. If the clerk wishes to return to the sticker main screen without saving the sticker entries, the clerk taps a “Clear” button. To return to the sticker header screen, the clerk taps a “Header” button.

10 After the sticker requests have been entered on the sticker entry screen, the sticker main screen will display the sticker record as shown in FIG. 61. The sticker main screen displays the status (“Sts”) of “EDT” for edited sticker record or “SND” for sent sticker record. The sticker main screen also displays the number of lines (“Lns”), number of pieces (“Ps”), and the date of the sticker record (“DT”). If the clerk wishes to send the sticker record to the retail computer system 336 or a stand-alone computer, the clerk highlights the sticker record 746 and taps a
15 “Send” button 748. The sticker record is sent to the retail compute system 336 or a stand-alone computer using the system describing in conjunction with FIG. 28. Once the sticker record is sent, the status field changes from “EDT” to “SND.” To delete the sticker record, the clerk highlights the sticker record and taps a “Del” button 750. The retail main page 708 also provides a “Info” button 752 that provides instructions on the sticker request procedures.

20 The sticker request procedures for the distribution system 10 of the present invention provide significant advantages. The retail device improves the productivity and accuracy of the retail store. The sticker request procedures with the retail device provide faster and easier training of personnel. The retail device reduces the likelihood of erroneous orders because the retail device provides sticker records with the detailed descriptions of the item allowing the clerk
25 to easily verify the item. The retail device is also very portable allowing the clerk to roam freely about the retail store to generate the sticker requests. Moreover, once the retail store computer system has the sticker record, the sticker record may be transferred to the distribution center computer system. Once the distribution center computer system has the sticker record, the distribution center generates the requested stickers and sends them to the retail store. The sticker
30 request procedures improve the tracking of sticker requests and allows the retail store readily request stickers from the distribution center.

While particular embodiments and applications of the present invention have been illustrated and described, it is to be understood that the invention is not limited to the precise construction and compositions disclosed herein and that various modifications, changes and variations will be apparent from the foregoing descriptions without departing from the spirit and
5 scope of the invention as defined in the appended claims.

CLAIMS:

1. A distribution system for transferring a plurality of items from a distribution center to a customer, said distribution system comprising:
5 a delivery device capable of identifying said items and capable of maintaining a delivery record of said transfer of said items; and
a retail device capable of identifying said items and capable of maintaining a receipt record of said transfer of said items.
2. The distribution system of claim 1 wherein said delivery device upon identifying
10 said item displaying an item description on a display screen.
3. The distribution system of claim 1 wherein said delivery device is a portable computer.
4. The distribution system of claim 1 wherein said delivery device includes a barcode scanner to identify said items.
- 15 5. The distribution system of claim 1 wherein said delivery device includes a data entry apparatus to enter transfer information into said delivery record.
6. The distribution system of claim 6 wherein said transfer information is an electronically captured signature.
7. The distribution system of claim 1 wherein said delivery device is further capable
20 of storing a driver manifest record, said driver manifest record containing a listing of said items and a status of said items.
8. The distribution system of claim 4 wherein said driver manifest record further contains a listing of a second customer and a second plurality of items to be transferred to said second customer.
- 25 9. The distribution system of claim 1 wherein said retail device is further capable of creating an ordering record of a plurality of items by identifying a quantity of said item to order from said distribution center.
10. The distribution system of claim 1 wherein said retail device is further capable of creating an inventory record by identifying said items within a store.
- 30 11. The distribution system of claim 1 wherein said retail device is further capable of creating a price change record by identifying said item and saving a price change associated with said item.

12. The distribution system of claim 1 wherein said retail device is further capable of creating a returns record by identifying a return item to return to said distribution center.

13. The distribution system of claim 1 wherein said retail device is further capable of creating a sticker request record by identifying a sticker item in need of a sticker to accompany
5 said sticker item.

14. The distribution system of claim 1 further including a distribution center computer capable of communicating with said delivery device.

15. The distribution system of claim 14 wherein said delivery device transfers said delivery record to said distribution center computer.

10 16. The distribution system of claim 14 wherein said retail device is capable of communicating with said distribution center computer.

17. A method for distributing a plurality of items to a customer comprising the steps of:

placing said items destined for said customer into a shipping unit;

15 placing a label on said shipping unit, said label having a unique identifier;

creating a shipment record identifying said shipping unit by said identifier and listing said items within said shipment unit;

sending said shipping record to said customer;

delivering said shipping unit to said customer;

20 receiving said shipping unit by said customer; and

identifying said shipping unit by said customer using said shipment record, said identifying by electronically reading said identifier on said label.

18. The method of claim 17 further including verifying contents of said shipping unit using said listing of said items within said container in said shipping record.

25 19. The method of claim 18 further including electronically recording any discrepancy between said contents of said shipping unit and said listing in said shipping record.

20. The method of claim 17 further including creating a delivery record of said delivery, said delivery record created by electronically reading said identifier.

30 21. The method of claim 18 further including creating a receipt record of said receipt of said shipping unit, said receipt record created by identifying said shipping unit and listing any differences between said items listed on said shipping record and said items within said container.

22. The method of claim 17 wherein said unique identifier is a barcode.

23. The method of claim 17 further including storing said shipment record on a portable computer.

24. The method of claim 17 further including electronically capturing a signature
5 confirming delivery of said shipping unit to said customer.

25. The method of claim 17 further including electronically recording a time of delivery of said shipping unit to said customer.

26. A method of distributing a plurality of items from a warehouse to a remote site comprising the steps of:

10 creating an electronic shipment record of said items to be delivered to said remote site, said shipment record listing a shipping quantity of each of said items;
delivering said items at said remote site; and
creating an electronic delivery record of said items delivered at said remote site; said delivery record listing a delivered quantity of each of said items and identifying any differences between
15 said shipping quantity and said delivered quantity.

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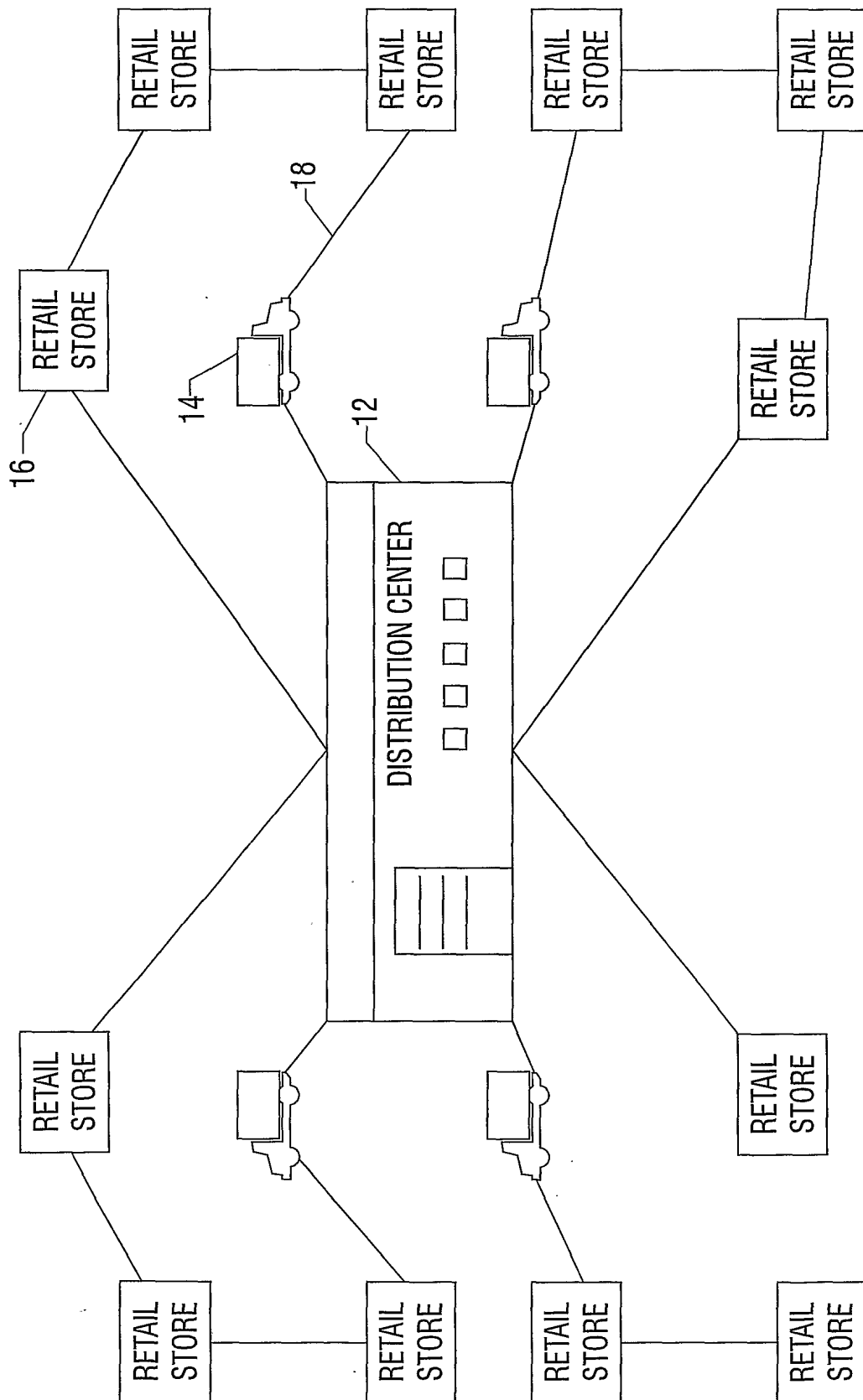


FIG. 1

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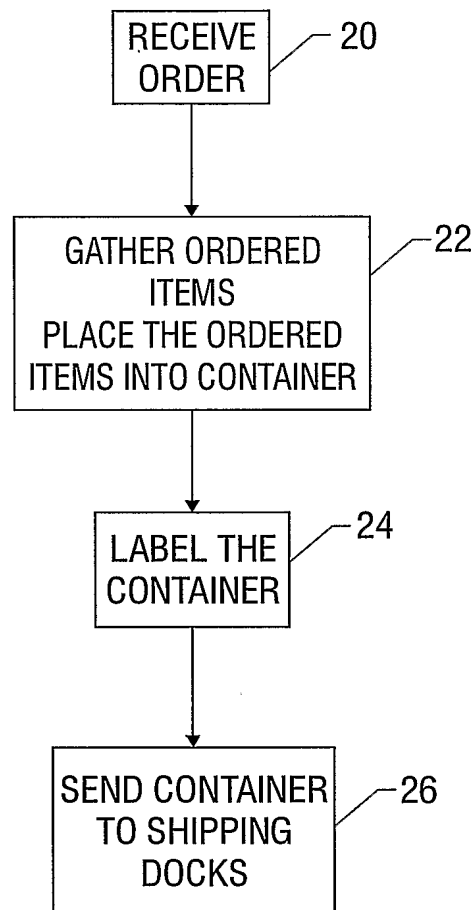


FIG. 2

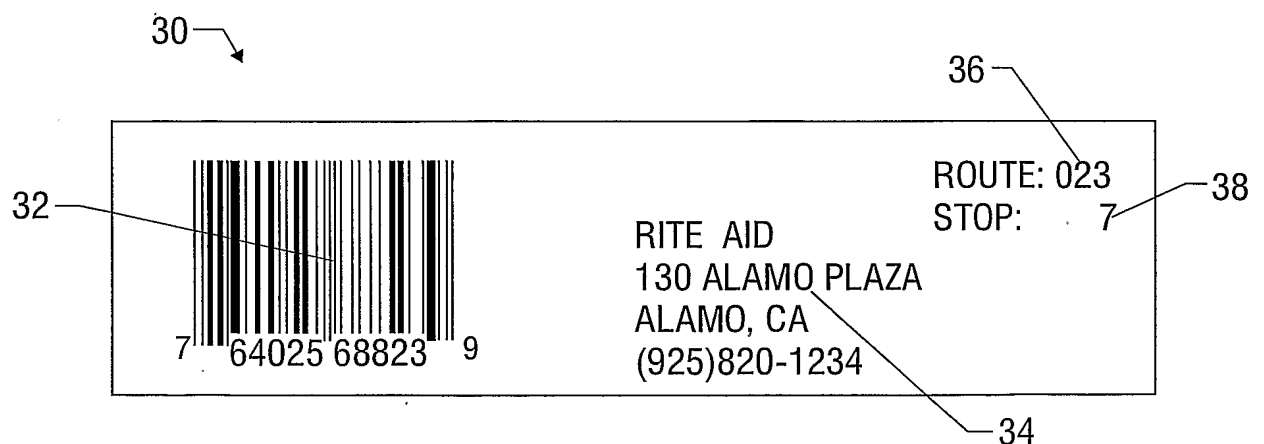


FIG. 3

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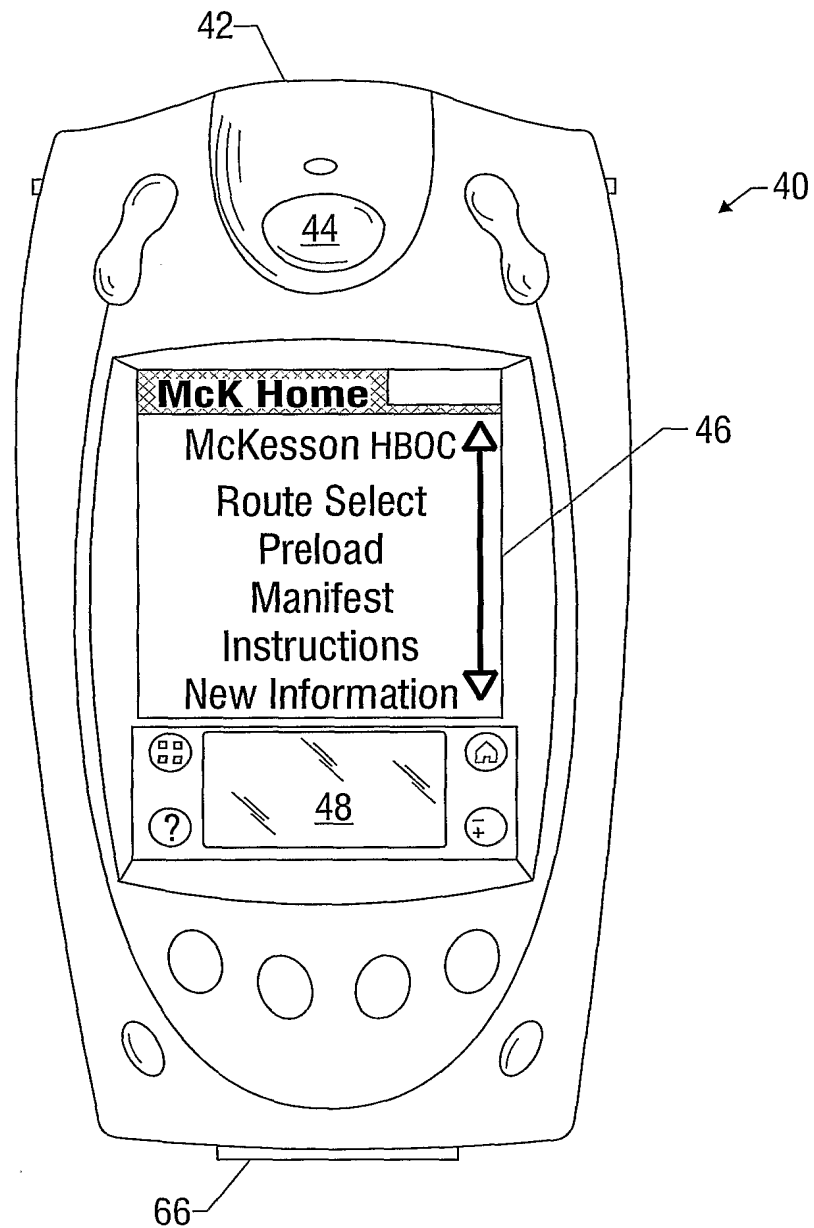


FIG. 4

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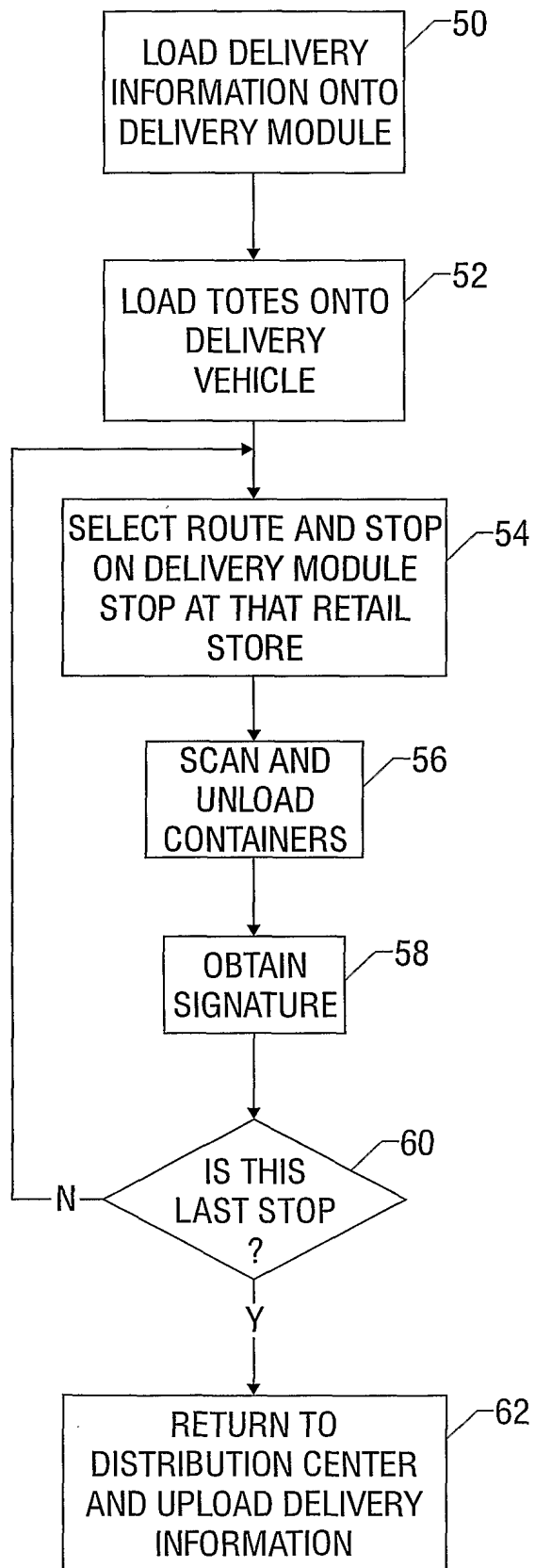


FIG. 5

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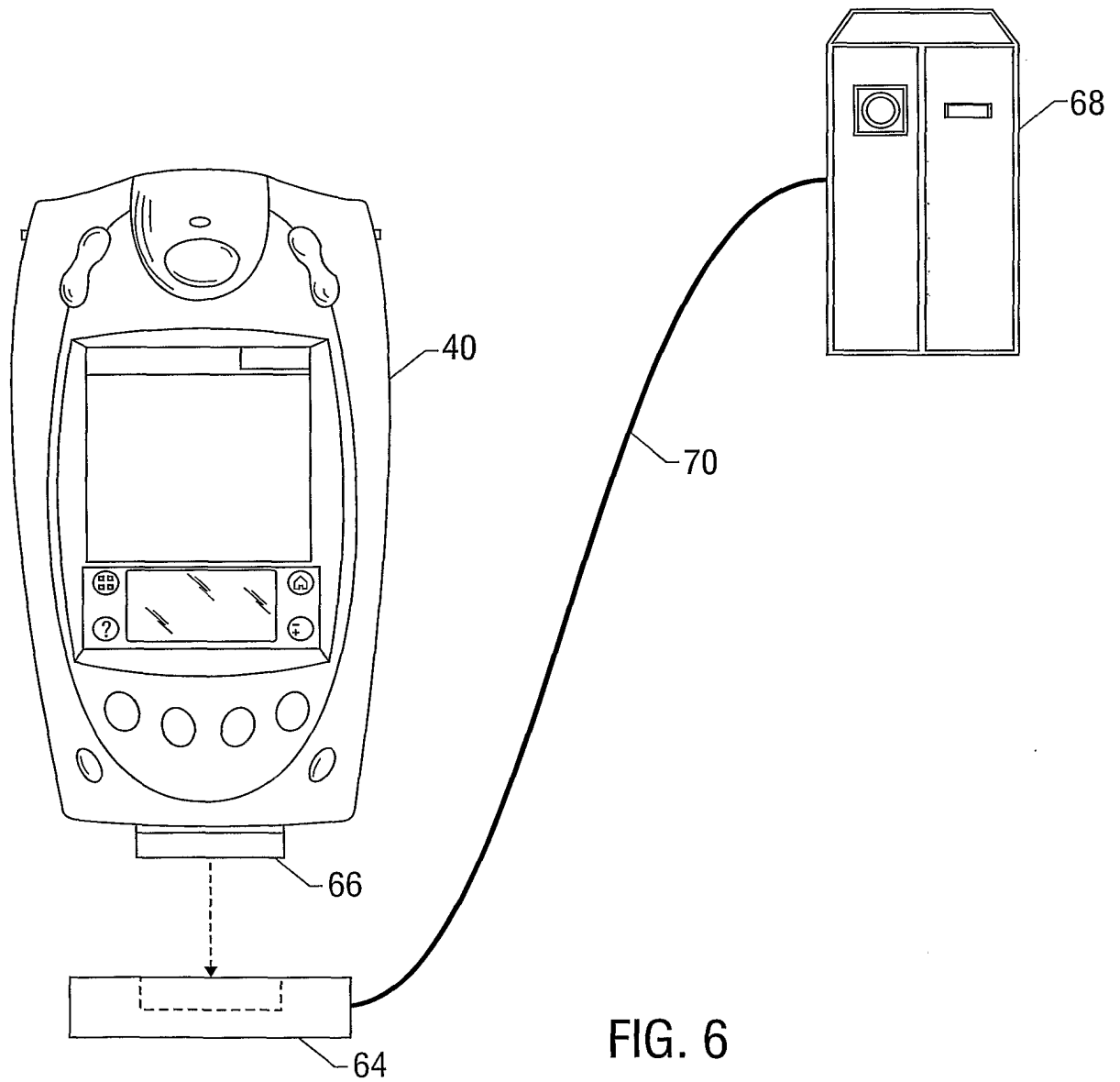


FIG. 6

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FIG. 7

FIG. 8

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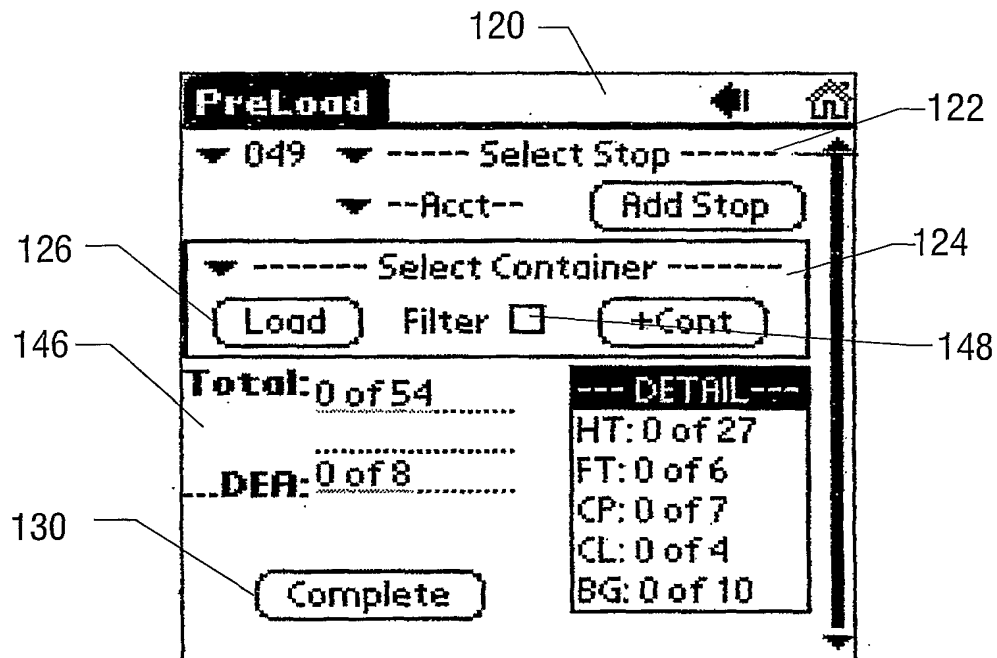


FIG. 9

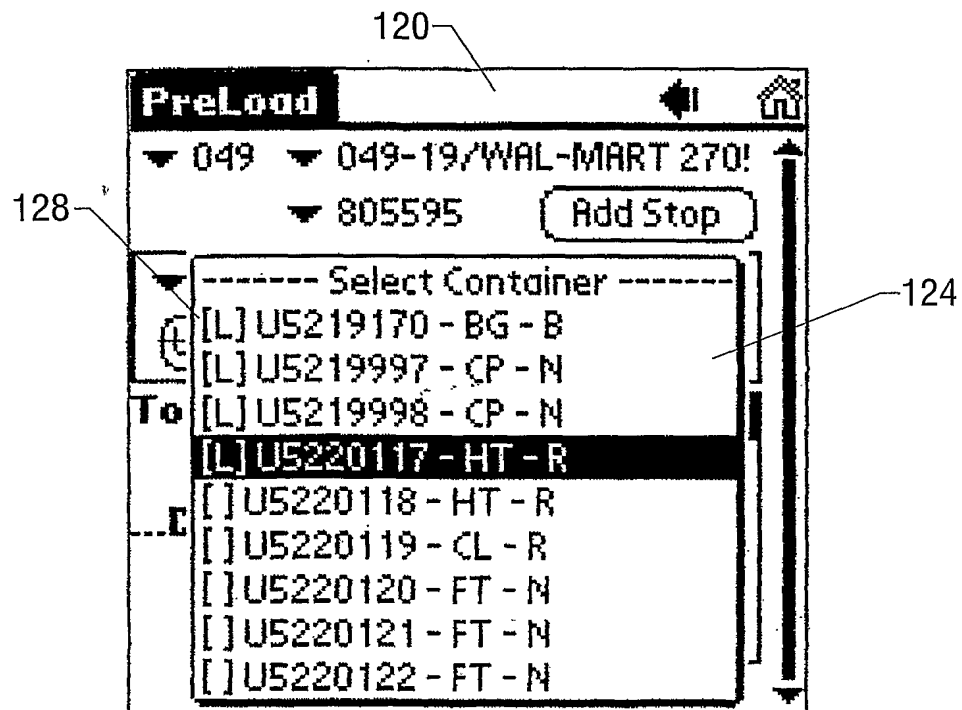


FIG. 10

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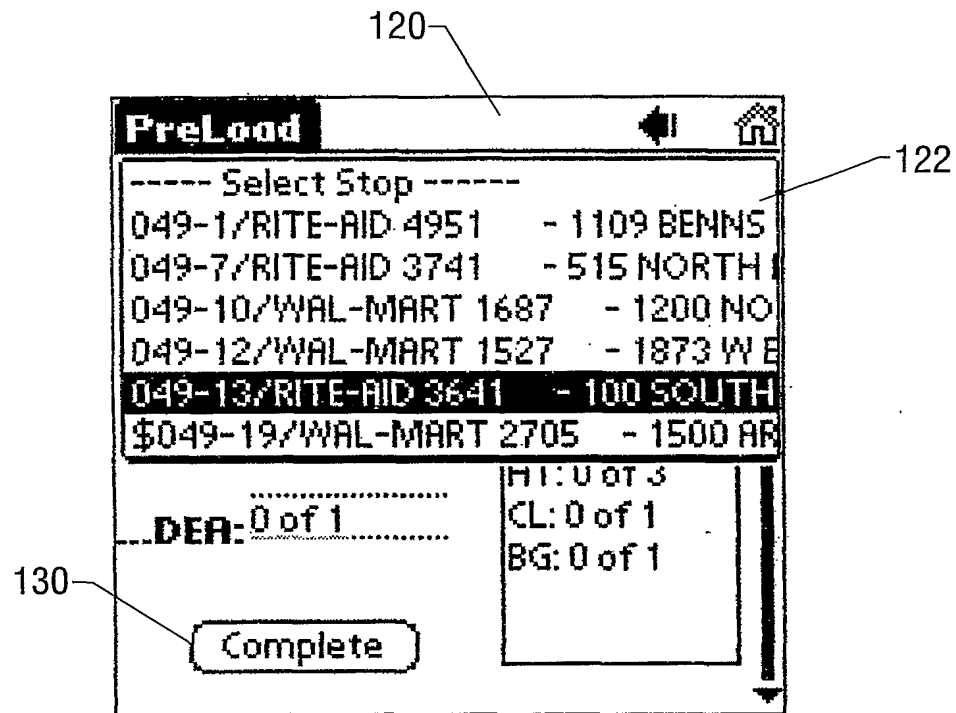


FIG. 11

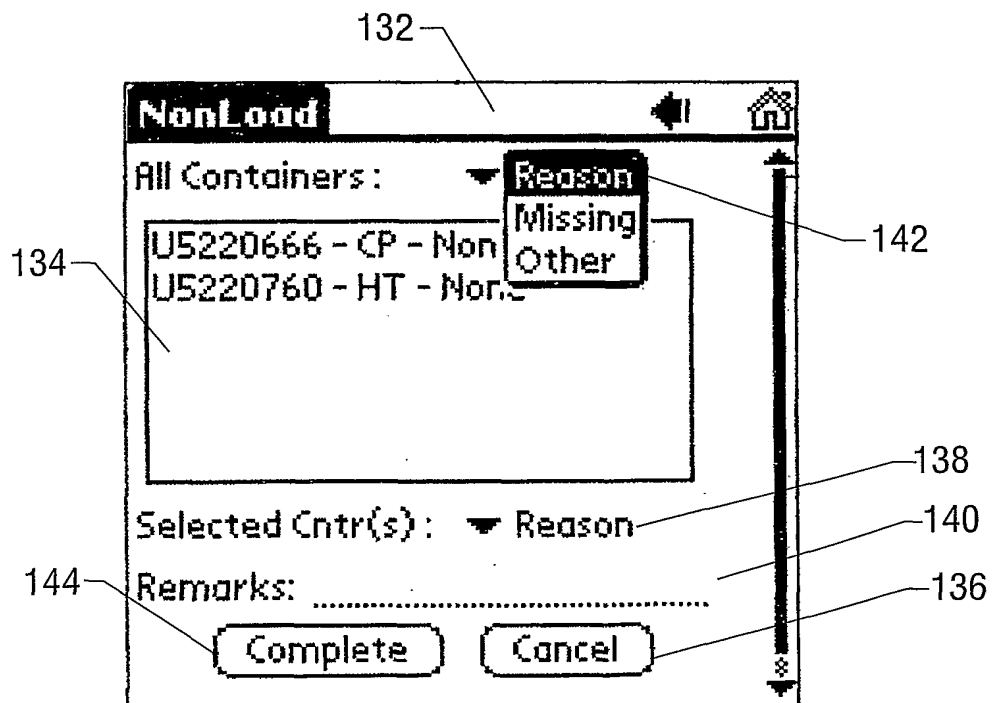


FIG. 12

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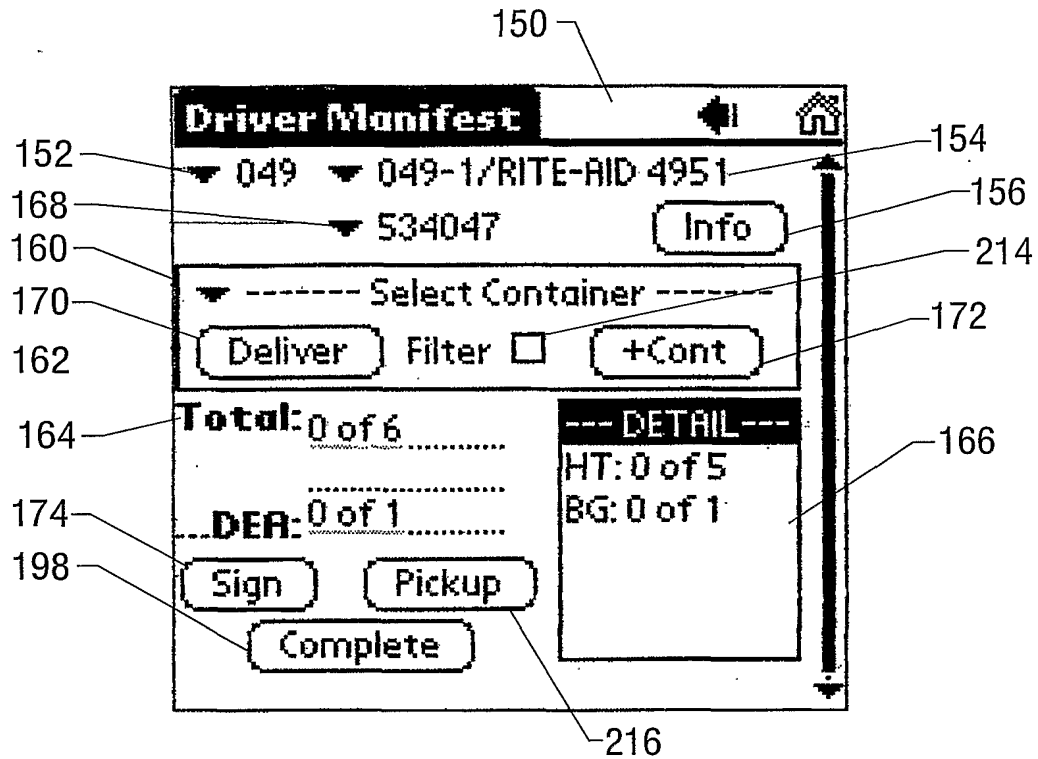


FIG. 13



FIG. 14

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Stop Information

Route: ▼ 023 023....

Stop: 7.....

Cust: RITE-AID 5907.....

Street Address:
130-A ALAMO PLAZA.....

.....

City: ALAMO.....

State: CA.....

Phone: 925 8201233.....

Add Clear Done

FIG. 15

150

Driver Manifest

▼ 049 ▼ 049-1/RITE-AID 4951

▼ 534047

Info

152

154

156

160

168

----- Select Container -----

[*] U5220369 - BG - D

[*] U5220769 - HT - R

To [] U5220770 - HT - R

[] U5220771 - HT - R

[] U5220772 - HT - N

[] U5220773 - HT - N

198

Sign Pickup

Complete

FIG. 16

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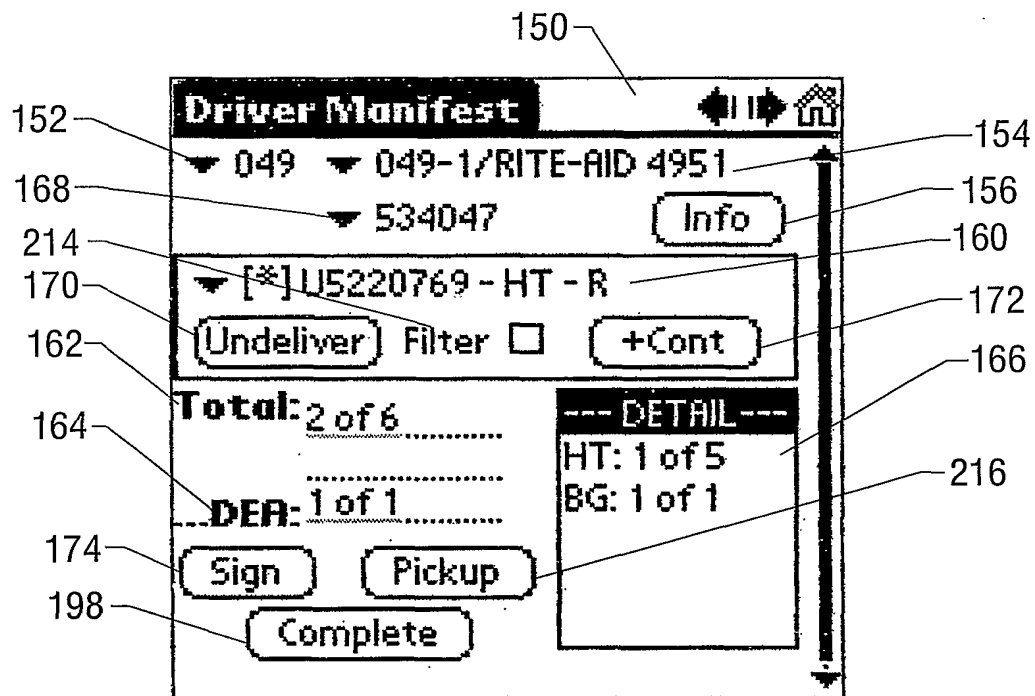


FIG. 17

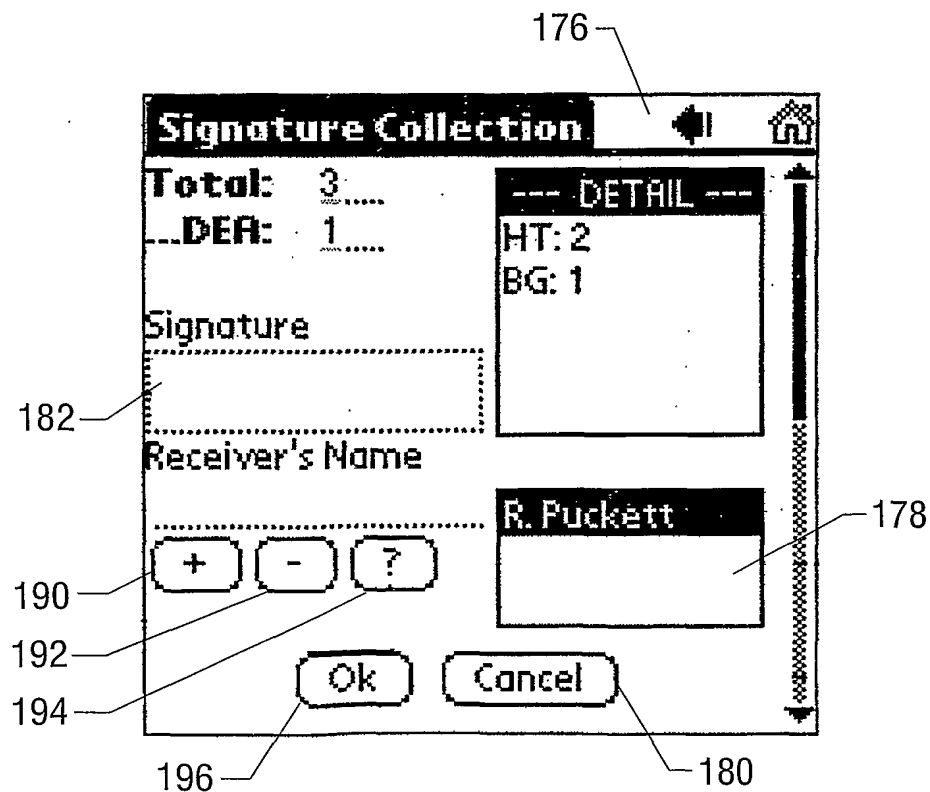
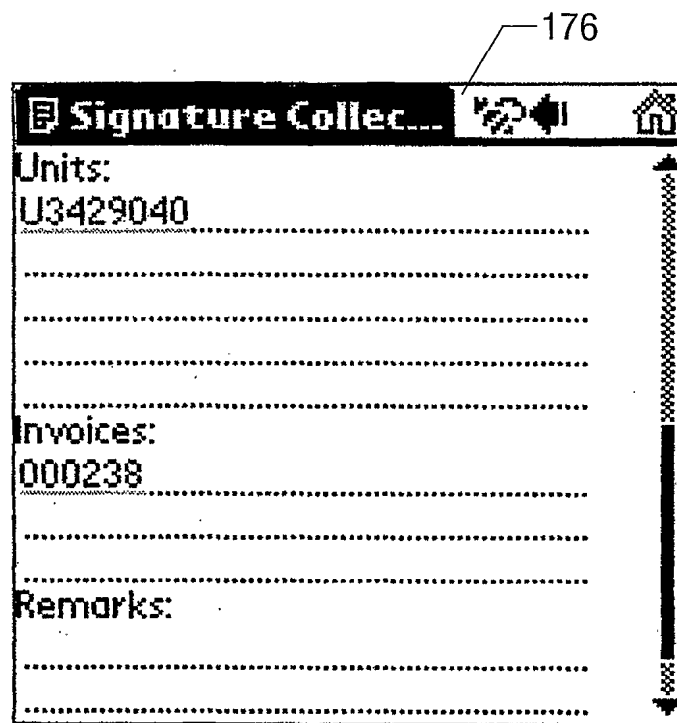


FIG. 18

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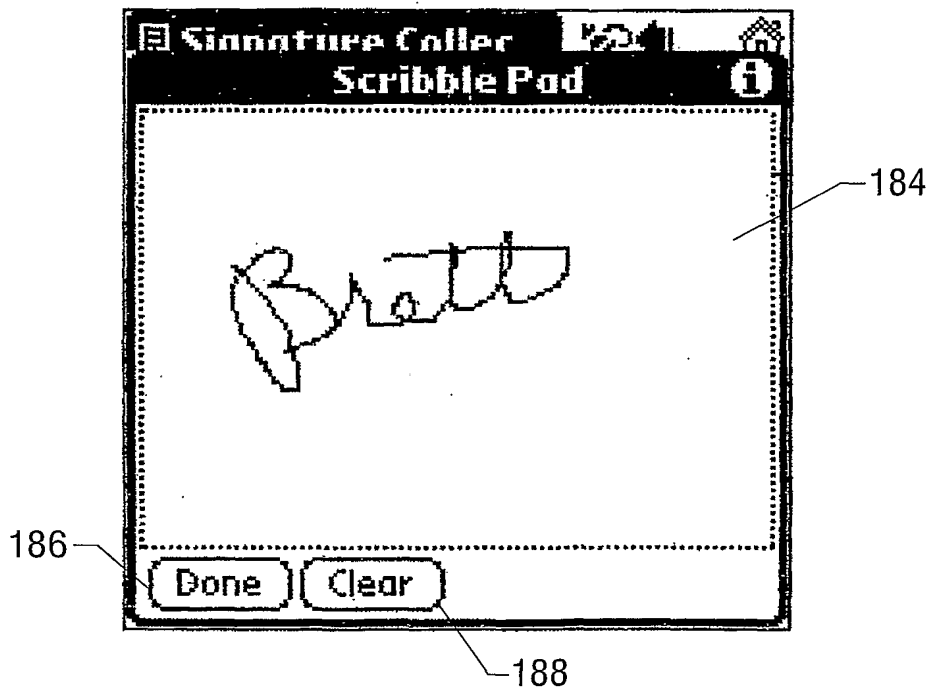
Signature Collec...

Units:
U3429040

Invoices:
000238

Remarks:

FIG. 19



184

Signature Collec Scribble Pad

Brett

186

Done Clear

188

FIG. 20

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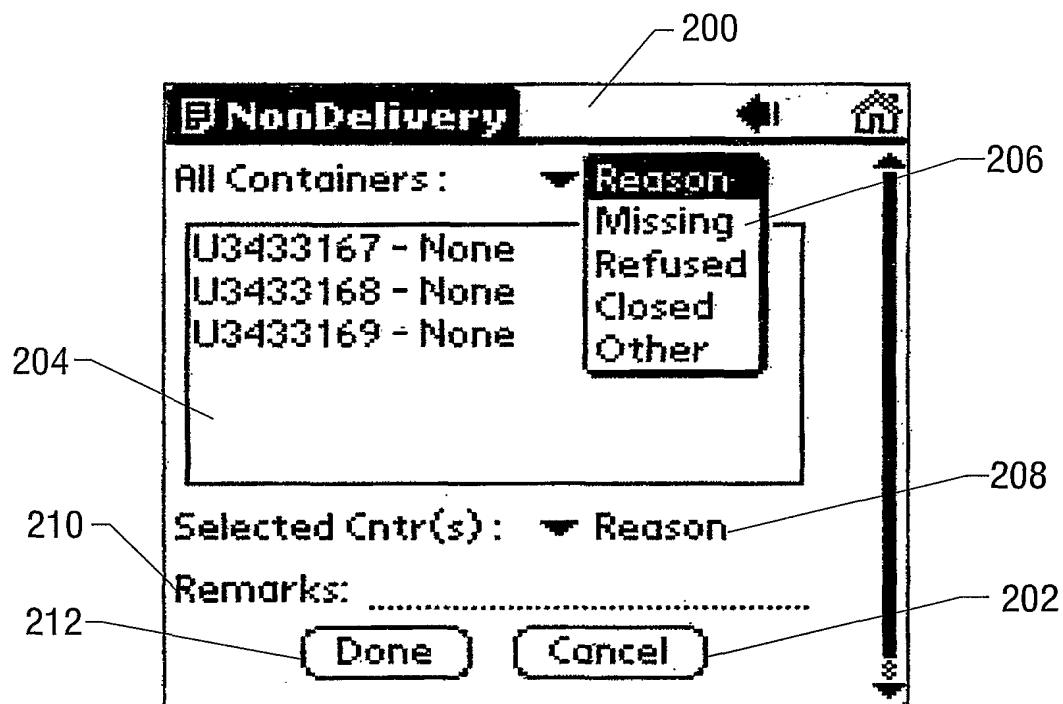


FIG. 21

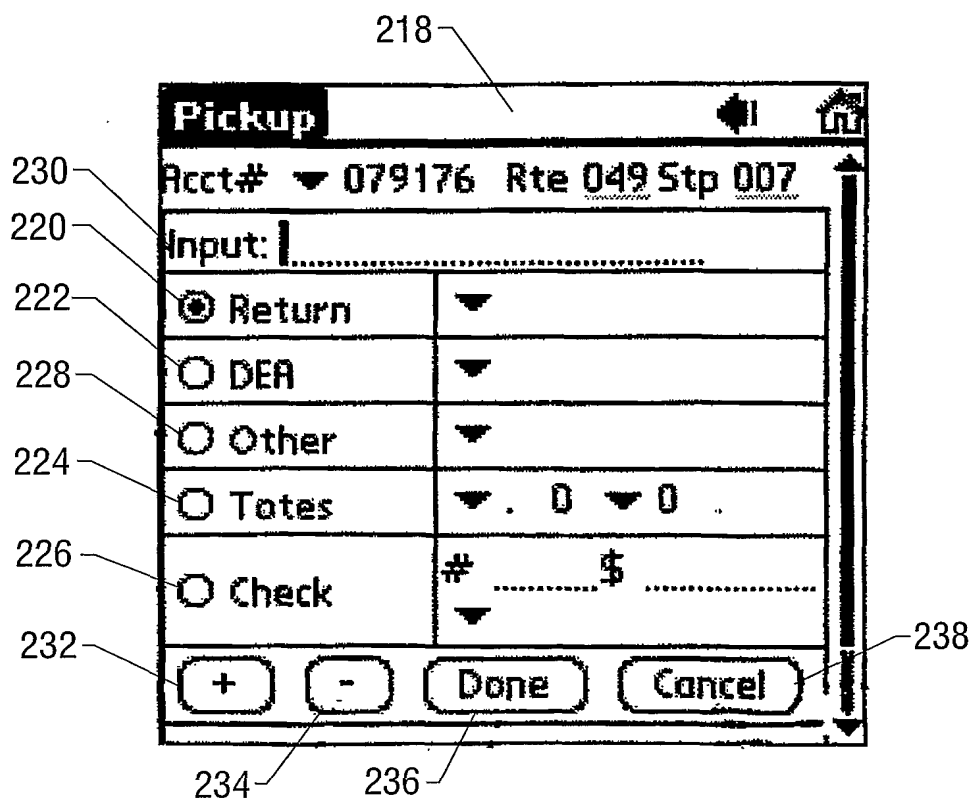


FIG. 22

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240

242

244

246

248

250

252

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256

258

260

262

McGraw-Hill

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: [http://datalog.wms/cd/default.htm] NewCode RealPlayer

Instant Message CLD Internet Lookup

Home | DC Operations | Process | DC Systems | Drug Finance | HR | Inventory Mgmt | Procurement | Small Business | Transportation | WMS | PC/LAN/Network | Regional DCs

Fill DC:*

Invoice Date

Trace ID:*

Route #:

Stop #:

Invoice #:

Customer #:

Container Type:

Driver:

Courier:

Status:

Submit Query

Document Done

*If available with this trade item value, a high detailed record of the delivery will be shown if available

FIG. 23

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264

Close Loop Distribution Index Page Netscape
File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location <http://dstops/wms/cld/default.htm>
Internet Mail New Cool Read Play

McMessingHDC
Home | DC Operations | Process | DC Systems | Drug Finance | HR | Inventory Mgmt
Procurement | Small Business | Transportation | WMS | EC/AN/Network | Regions/DCs

What's Related

DC - 182 PRINT DATE - 1/7/2000 15:30:24 RTE - 070 STP - 016
INVOICE DATE - Wed Jan 5 2000
ACCT - 722959
INVOICE - 002414, 002415, 002465, 002466
DELIVERY DATE - Wed Jan 5 09:23:00 PST 2000
4122799 HT, 4122500 CP, 4122800 HT, 4122801 FT, 4122802 FT, 4122803 FT, 4122822 HT, 4122823 HT, 4122824 HT
SIGNED FOR BY - shieldrick
REMARKS: None

SUMMARY

DELIVERED	IN-ROUTE	MISSING	REFUSED	CLOSED	OTHER
HT 5					
CP 1					
FT 3					
TOTAL 9		0	0	0	0

Document Done

FIG. 24

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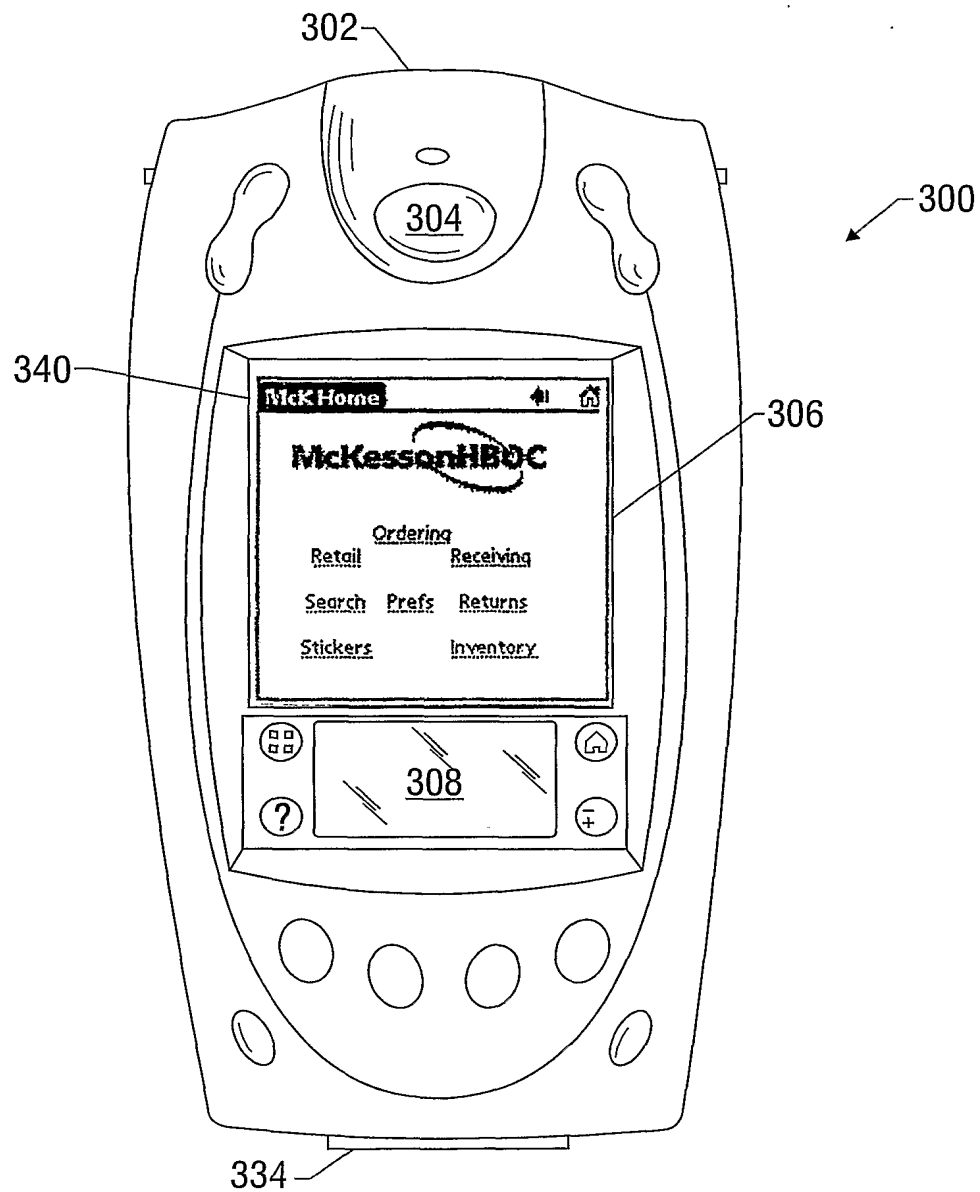


FIG. 25

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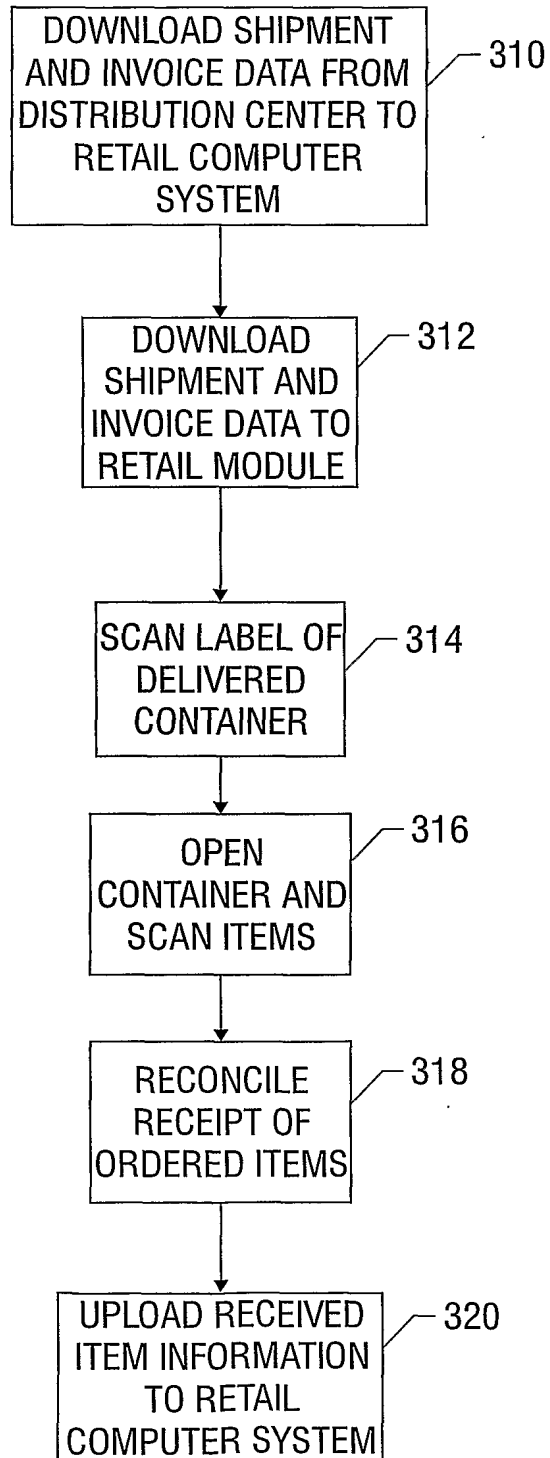


FIG. 26

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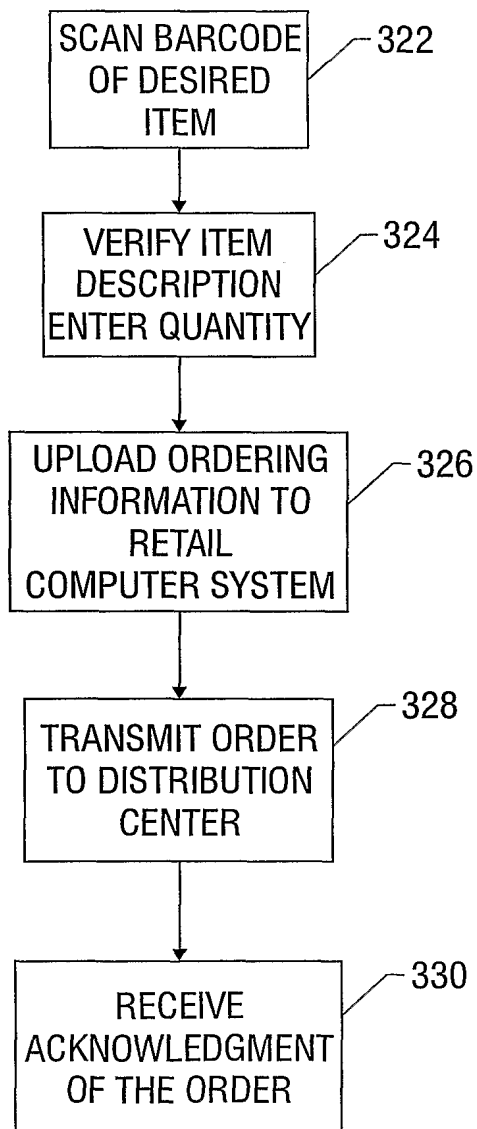


FIG. 27

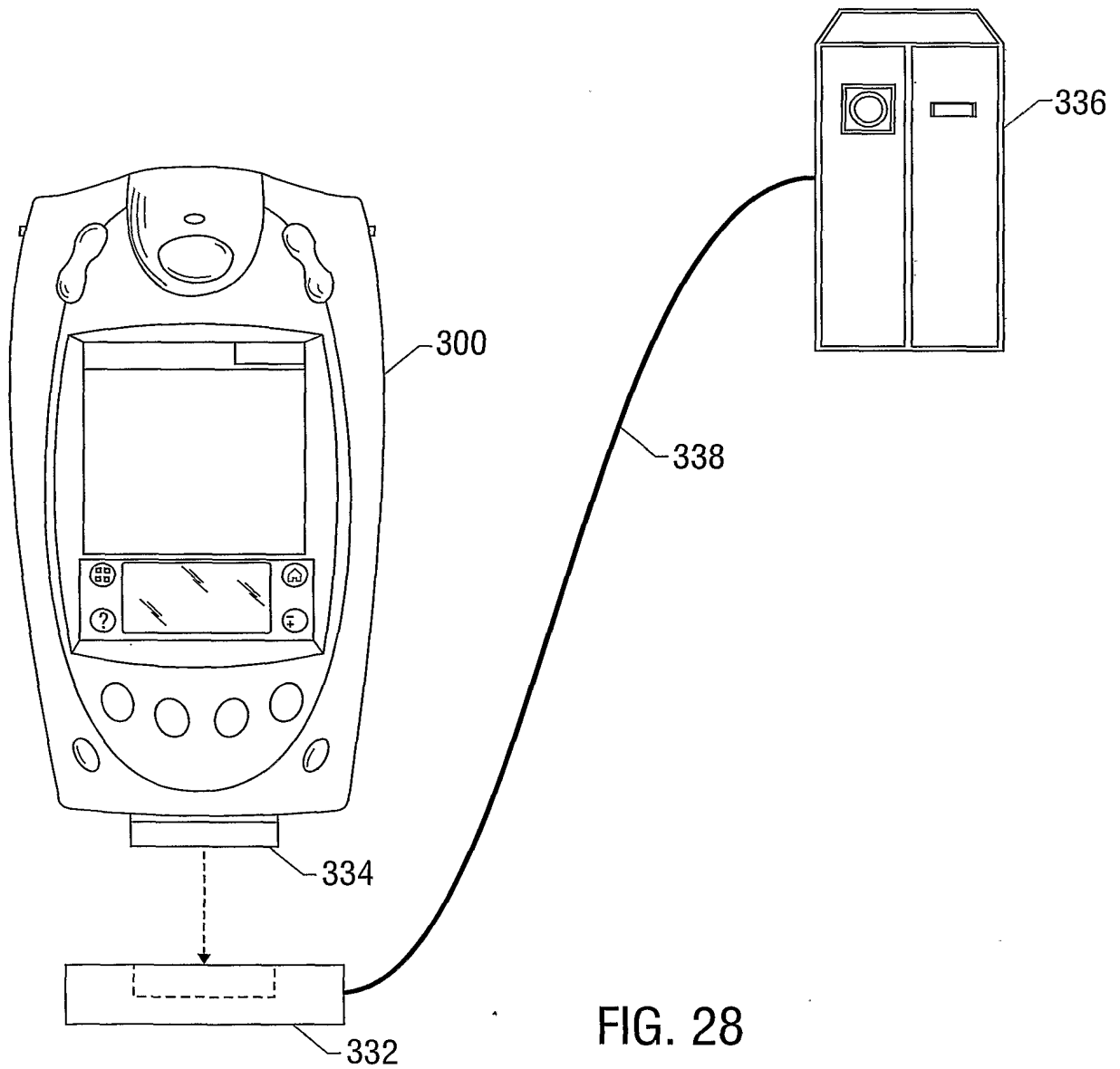


FIG. 28

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Receiving

PO:

Acct: [] 0000000112-1

Dept: [X] 0000000RXH-1

[] 0000000RXH-2

ALL Units

Rec ALL Submit Input

Rcvd Lines: Pcs:

Schd Lines: Pcs:

Item

Rcvd: EA ☐ ?

FIG. 29

Receiving

[] U5555555-

Rec ALL Submit Input

Rcvd Lines: 0 Pcs: 0

Schd Lines: 1 Pcs: 3

[] Solu-medrol A-o-v 125mg 2ml

Rcvd: 3 EA ☐ ?

Sched: 3 EA

Item# 2188290 Contract: []

25.0 UNIT=1, Case=16, DC=

Receive Clear Filter-Off

FIG. 30

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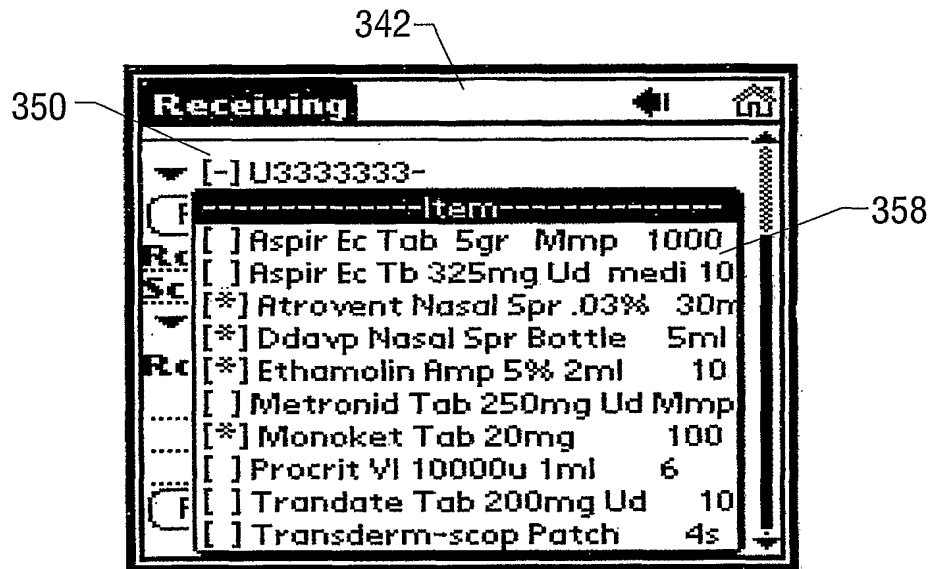


FIG. 31

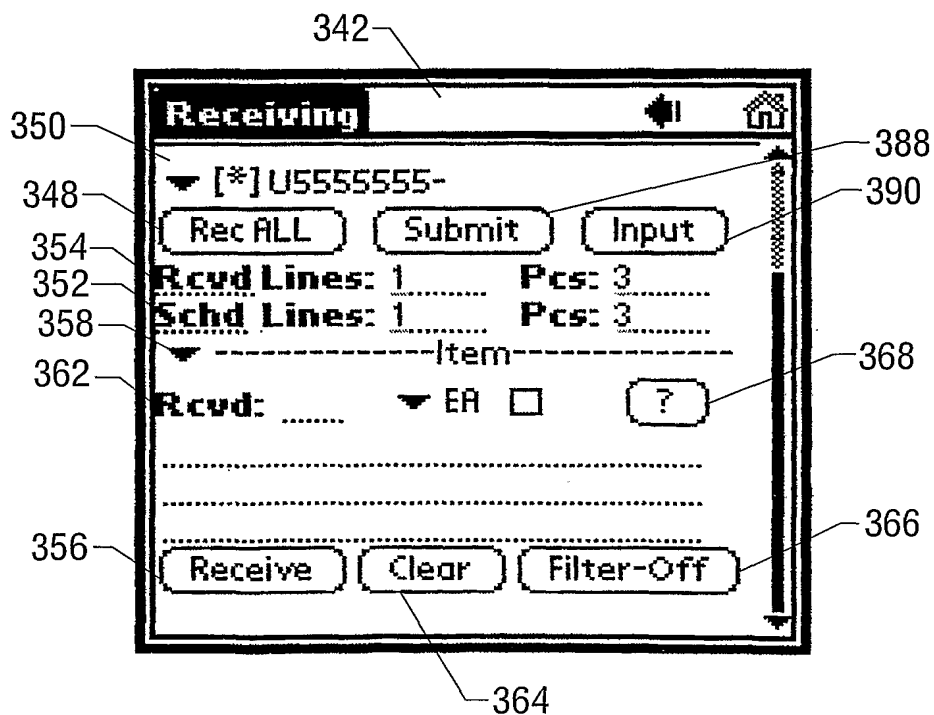


FIG. 32

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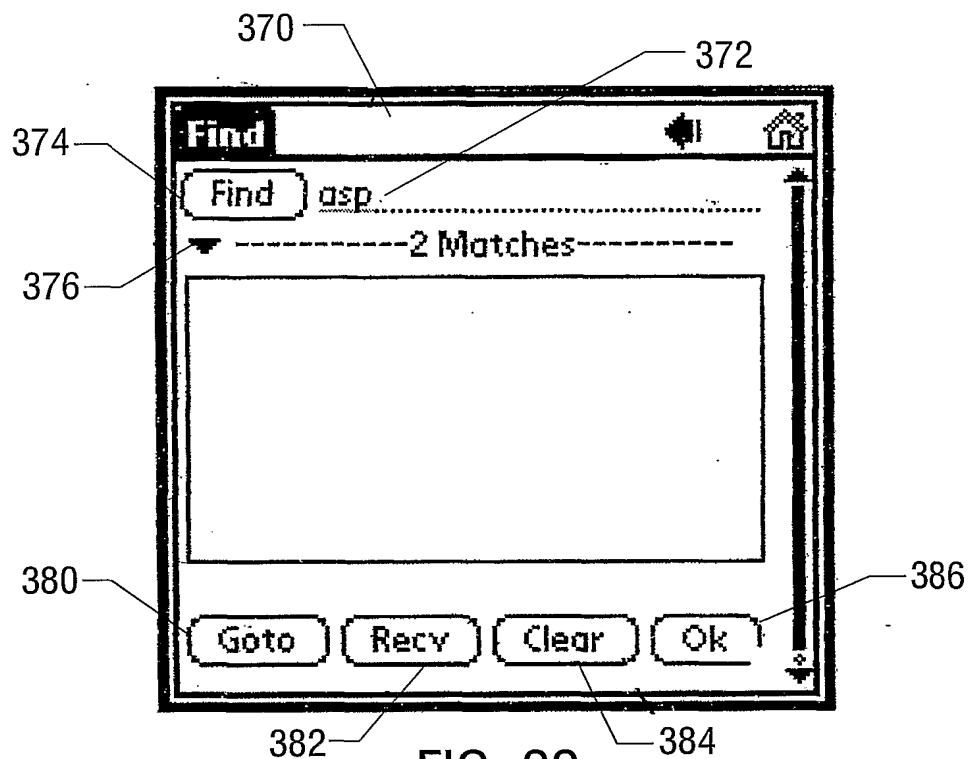


FIG. 33

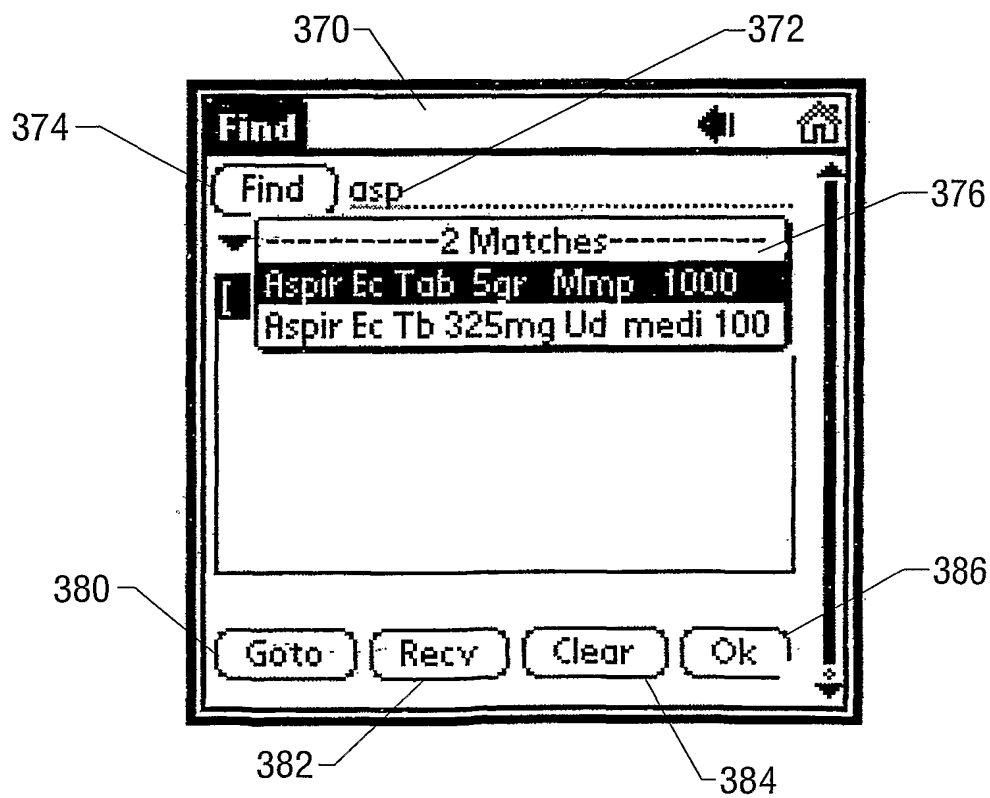


FIG. 34

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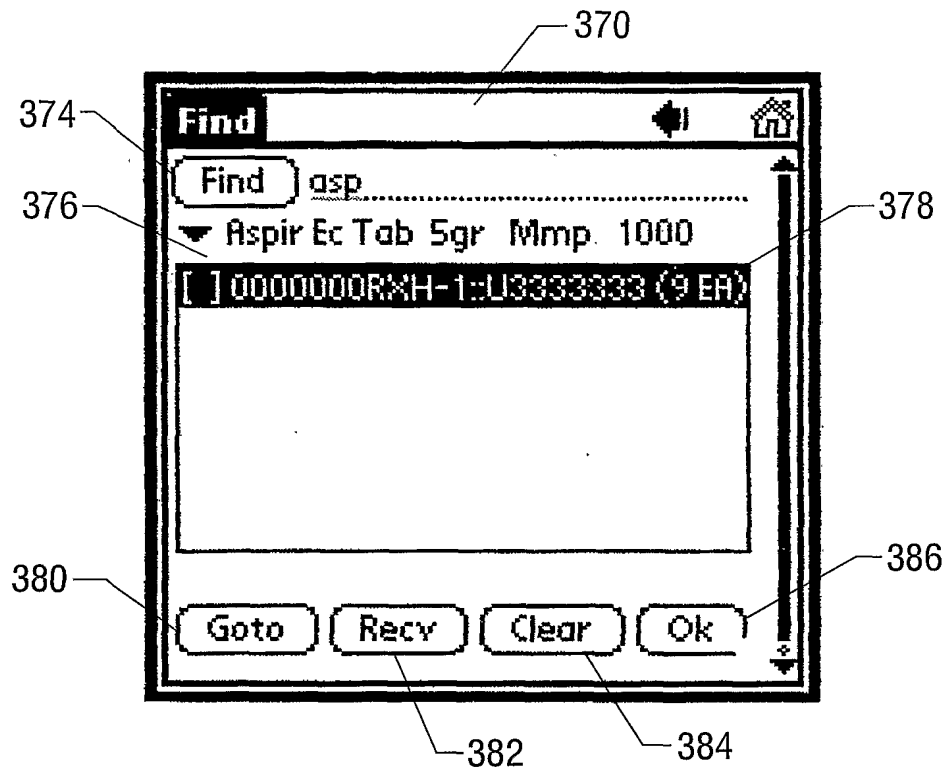


FIG. 35

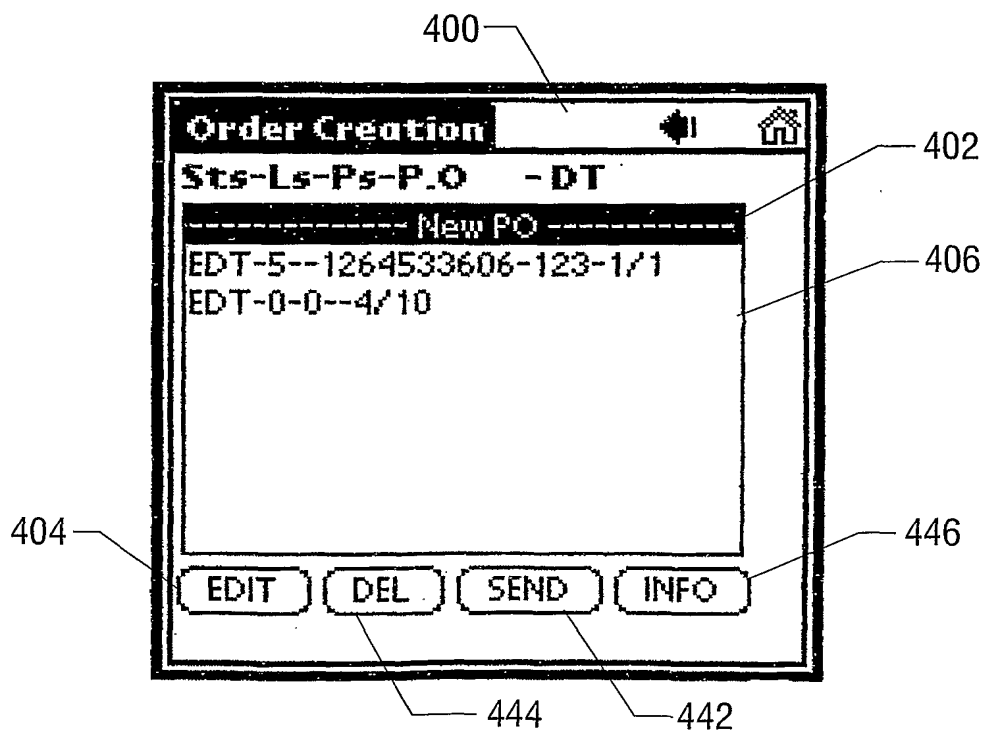


FIG. 36

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FIG. 37 is a screenshot of a handheld device screen titled "P.O. Direct Entry". The screen displays several input fields and buttons. At the top, there is a title bar with a back arrow and a home icon. Below the title bar, the following fields are visible: "Acct:" with a dropdown menu showing "111111" and a "Template" checkbox; "Dept:" with a dropdown menu showing "(Primary)"; "Enter PO:" with the text "12345" and a "Done" button. Below these, there are two rows of input fields: "Econ:" and "Qty:". Further down, there are checkboxes for "CS" and "NSub", followed by "Fr:" and "Av:". At the bottom, there is a dropdown menu showing "---Retail---" and a row of four buttons: "Add", "Del", "Detail", and "Clear". A vertical scrollbar is located on the right side of the screen.

410 412 414 416 434 432 436 428 438 418 420 422 440 430 426

FIG. 37

FIG. 38 is a screenshot of the same handheld device screen as FIG. 37, but with the data entry completed. The fields now contain the following information: "Acct:" with "111111" and "Template" checkbox; "Dept:" with "(Primary)"; "Enter PO:" with "12345" and "Done" button. The "Econ:" field now contains "2471811" and the "Qty:" field contains "3". Below these, the text "Accuzyme 30gm" is displayed, followed by "1.0 EACH:1, Case: 12, 1/5/99". The checkboxes for "CS" and "NSub" are still present, followed by "Fr:3" and "Av:3". The dropdown menu still shows "---Retail---". The buttons "Add", "Del", "Detail", and "Clear" are at the bottom. The vertical scrollbar is still present on the right side.

410 412 414 416 434 432 436 428 438 418 420 422 440 430 426

FIG. 38

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FIG. 39 is a screenshot of a handheld device screen titled "P.O. Direct Entry". The screen displays a form with the following fields and controls:

- Acct:** A dropdown menu showing "111111".
- Dept:** A dropdown menu showing "(Primary)".
- Enter PO:** A text input field containing "12345".
- Done:** A button next to the "Enter PO" field.
- UPC:** A dropdown menu showing "07514000502".
- Qty:** A text input field containing "6".
- <NOT IN DEVICE DATABASE>**: A status message.
- CS** and **NSub**: Checkboxes.
- Fr:** A dropdown menu showing "---Retail---.
- Av:** A text input field.
- Buttons:** "Add", "Del", "Detail", and "Clear" at the bottom.

Reference numerals point to various UI elements: 410 (Title bar), 412 (Acct dropdown), 414 (Dept dropdown), 416 (Enter PO field), 432 (UPC dropdown), 436 (CS checkbox), 428 (NSub checkbox), 430 (Fr dropdown), 426 (Av field), 438 (Done button), 418 (Vertical scrollbar), 434 (Status message), 420 (Horizontal separator), 422 (Buttons area), and 440 (Bottom border).

FIG. 39

FIG. 40 is a screenshot of a handheld device screen titled "P.O. Direct Entry". The screen displays a form with the following fields and controls:

- Econ:** A dropdown menu showing "2140853".
- Qty:** A text input field containing "2".
- Goniosol Sol 2.5% 15ml**: A line item description.
- 0.50 OUNCE:1, Case: 72, 12/8/98**: A line item description.
- CS** and **NSub**: Checkboxes.
- Fr:** A dropdown menu showing "1".
- Av:** A text input field containing "2".
- Buttons:** "Add", "Del", "Detail", and "Clear" at the bottom.
- [Qty]-DESCRIPTION**: A section header for a list of items.
- [1] Tylenl Cpl 325mg Ud Hos 20x150**: A list item.
- [3] Accuzyme 30gm**: A list item.

Reference numerals point to various UI elements: 416 (Title bar), 432 (Econ dropdown), 436 (CS checkbox), 430 (NSub checkbox), 430 (Fr dropdown), 428 (Av field), 438 (Done button), 418 (Vertical scrollbar), 434 (Status message), 420 (Horizontal separator), 422 (Buttons area), 440 (Bottom border), and 424 (List area).

FIG. 40

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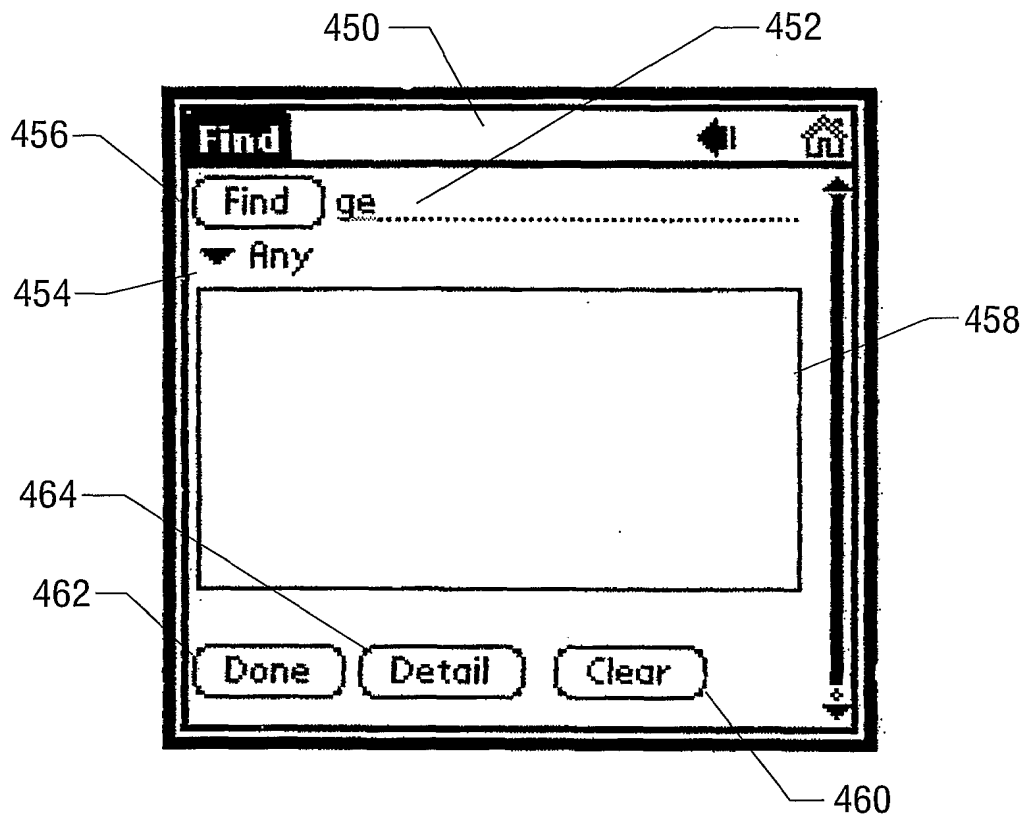


FIG. 41

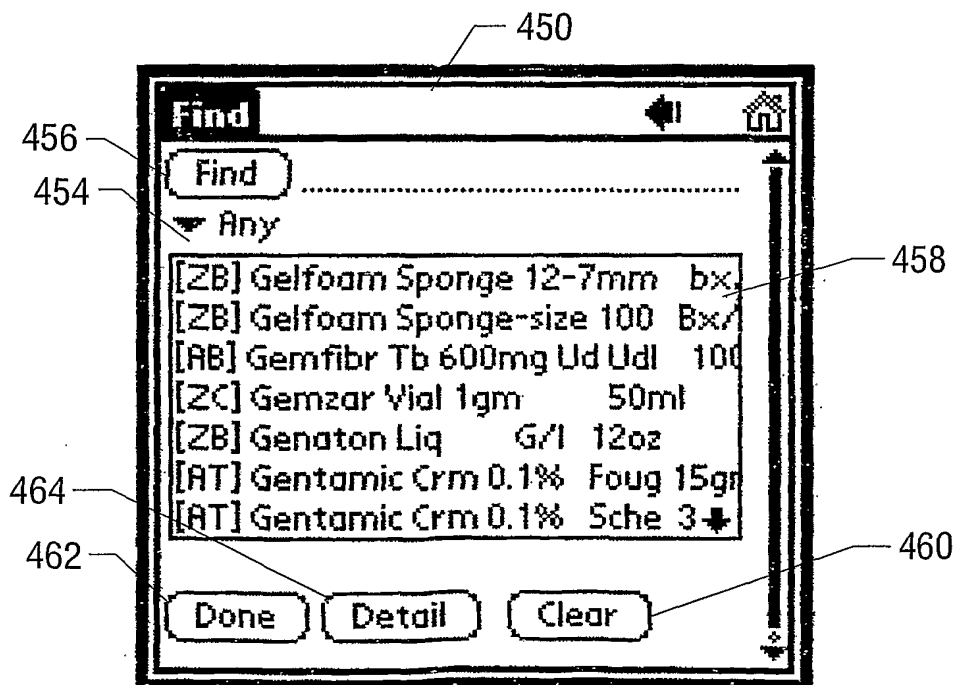


FIG. 42

Missing at the time of publication

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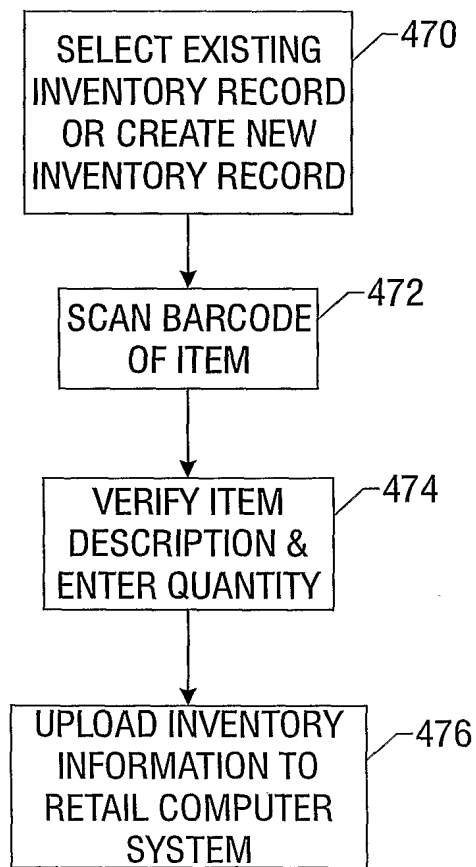


FIG. 44

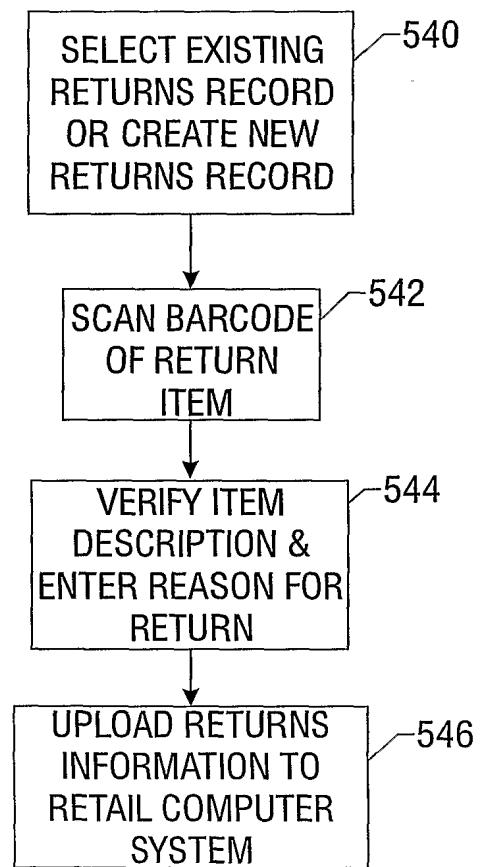


FIG. 49

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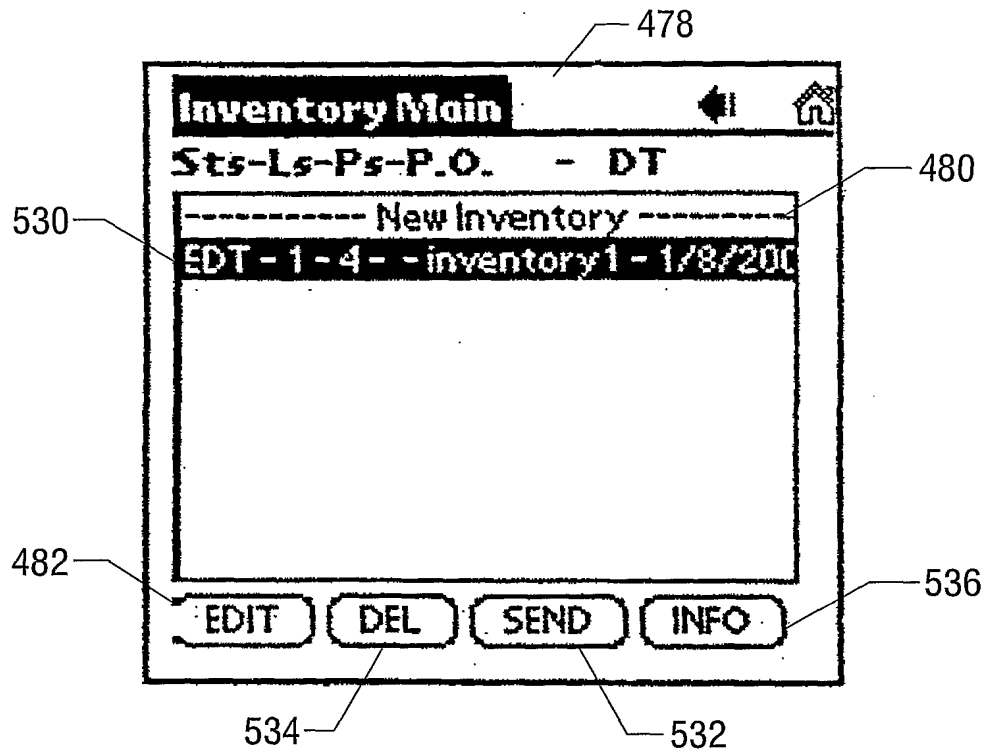


FIG. 45

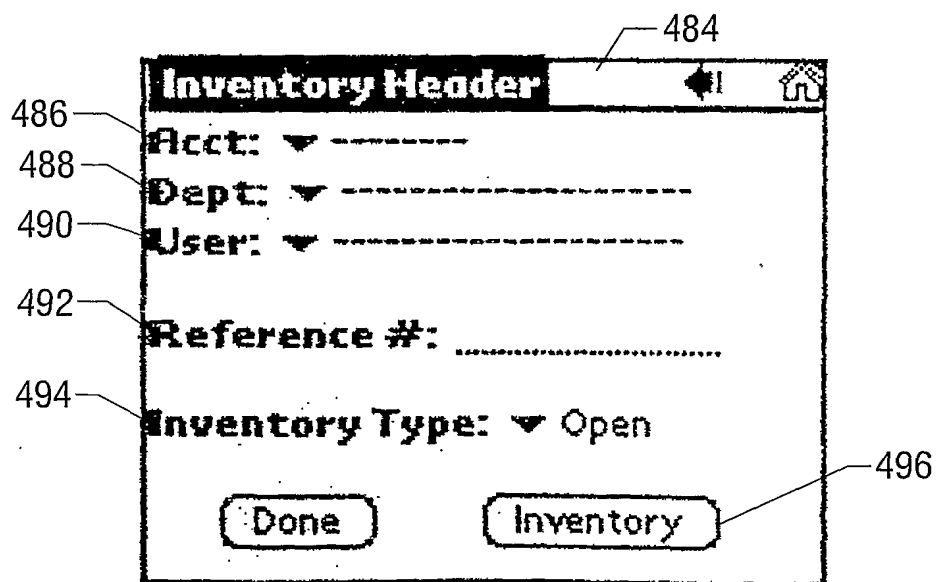


FIG. 46

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FIG. 47

FIG. 48

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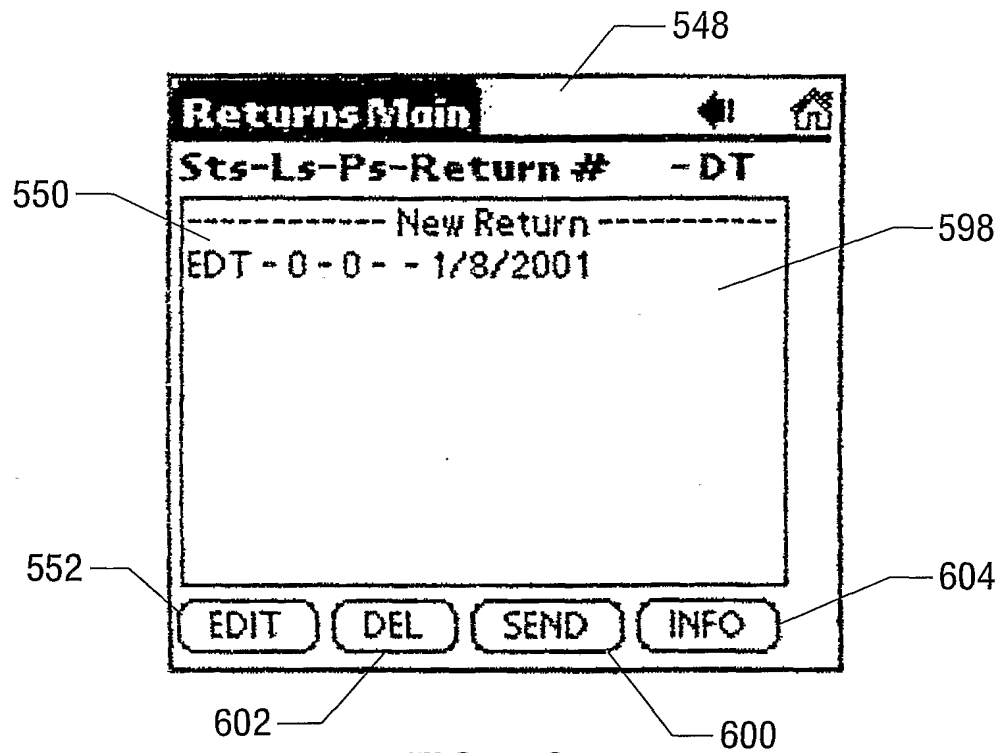


FIG. 50

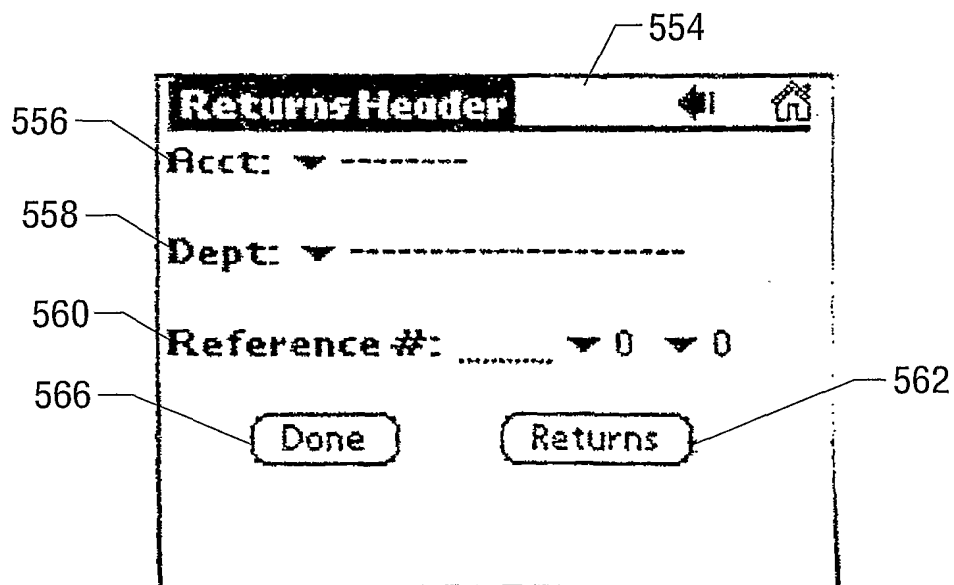


FIG. 51

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FIG. 52 is a screenshot of a "Returns Entry" screen. The screen features a numeric keypad (596) with buttons for digits 1-9, 0, and a left arrow. Below the keypad are buttons for "Header" (578) and "Done" (592). A vertical scrollbar (570) is on the right. The screen includes input fields for "Econ:" (568) and "Qty:" (576). Below these is a section for "Unsaleable Recall" (574) with a dollar sign (\$) (586) and an "Inv#" field (582). At the bottom are buttons for "Add" (588), "Del" (590), "Detail" (580), and "Clear" (594). The screen is titled "Returns Entry" (564) and has navigation icons (572).

FIG. 52

FIG. 53 is a screenshot of the "Returns Entry" screen with a list of reasons for returns displayed. The list includes: "Unsaleable Recall", "Salable Rcvd Wrong Product", "Salable Ordered in Error", "Unsaleable Rcvd Damaged", "Salable Overstock", "Unsaleable Overstock", "Unsaleable Rcvd No Charge", "Salable Rcvd No Charge", "Billing Error", "Shortage", and "Other". The screen is titled "Returns Entry" (564) and has navigation icons (572). A vertical scrollbar (582) is on the right. The screen includes a numeric keypad (596) and buttons for "Add", "Del", "Detail", and "Clear" (588, 590, 580, 594).

FIG. 53

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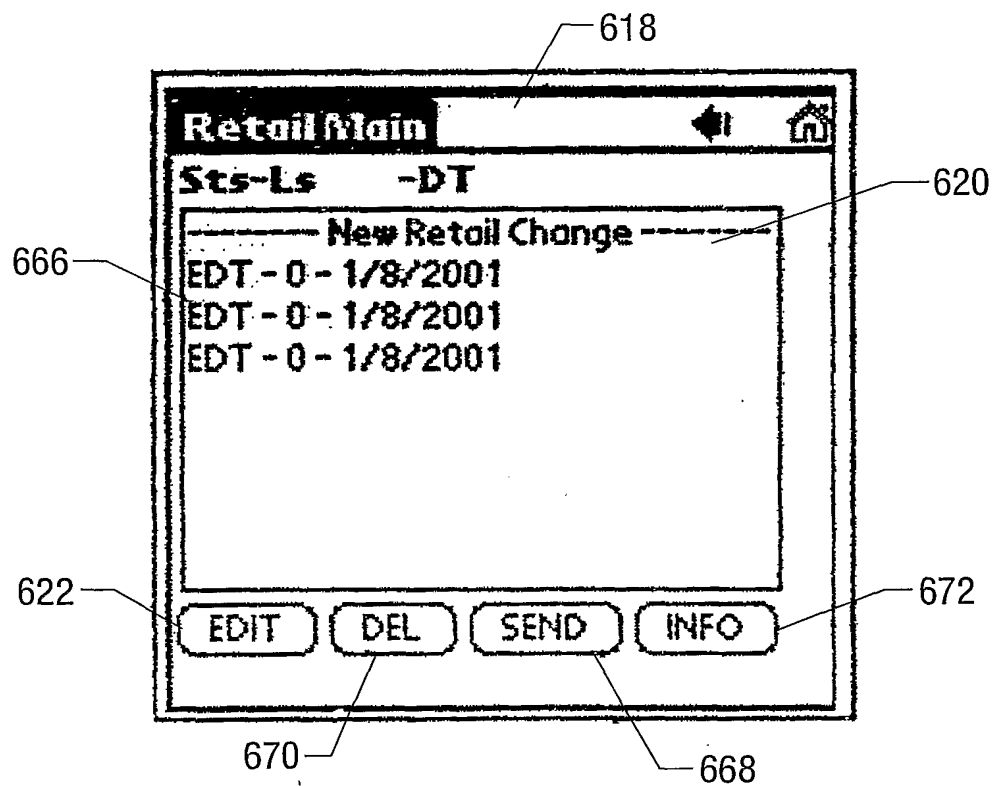


FIG. 55

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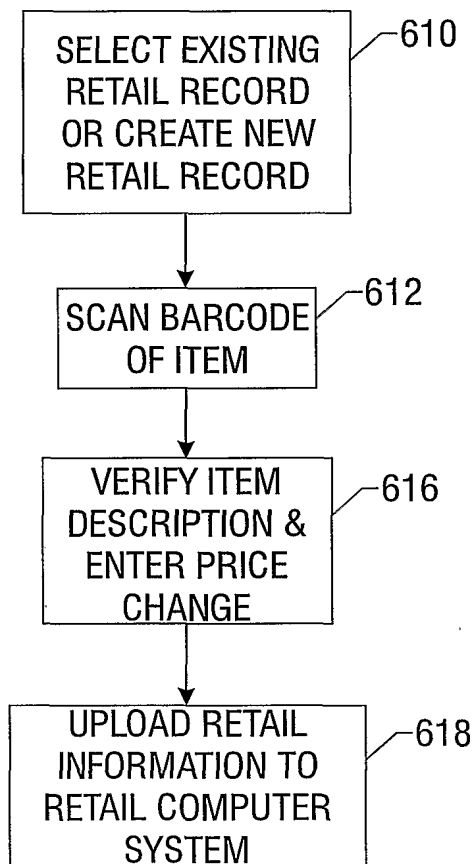


FIG. 54

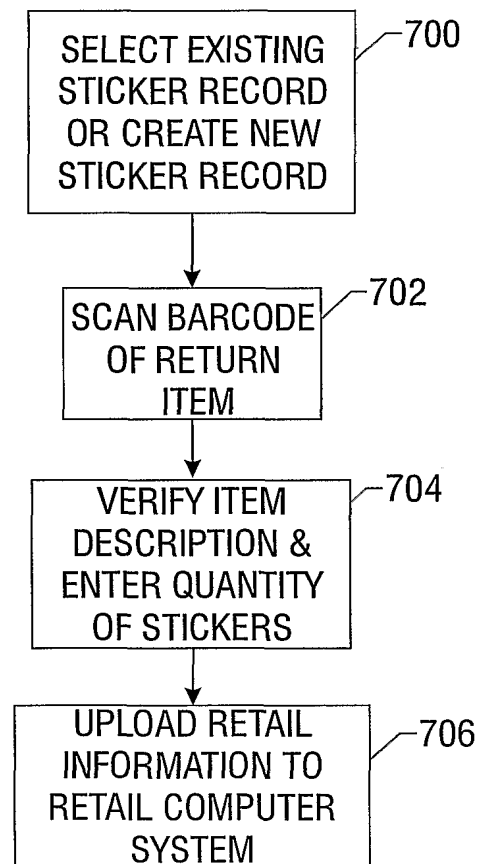


FIG. 60

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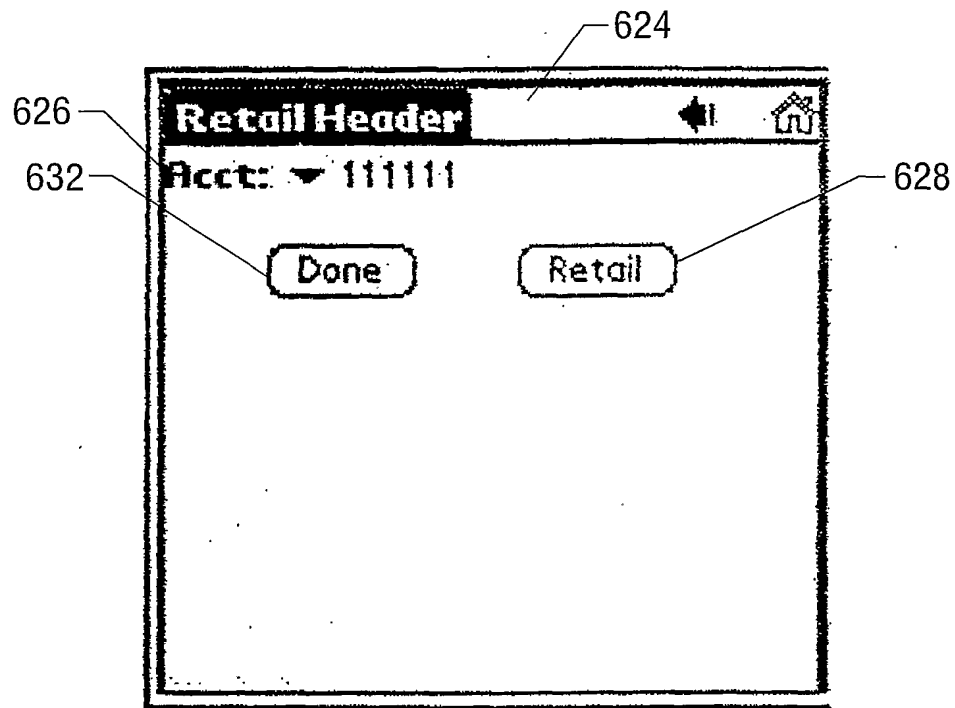


FIG. 56

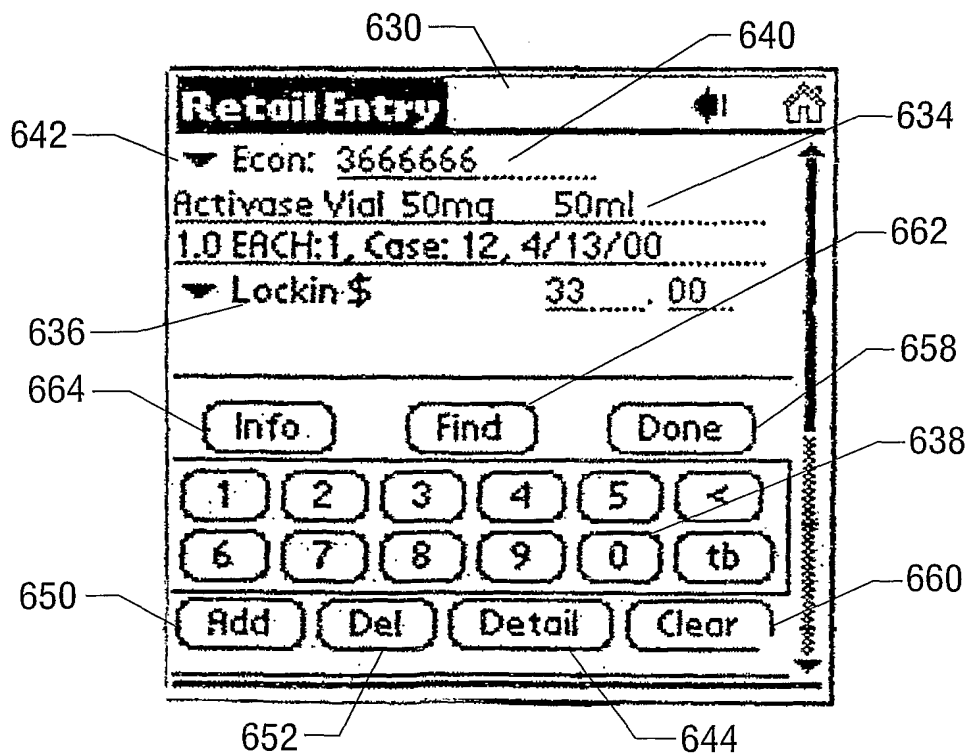


FIG. 57

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Item Detail

Tylenol Child Susp Liq 4oz

Economost: 1155555

UPC: 30045012304

NDC: 00045012304

Local ID: _____

Generic: 26911

Therapeutic: 280892

Orange Book: ZB

RWP: \$5.32

Min Order: 1

Avg Order: 1

Last Order: 17 Jan 2000

Orders/Year: 1

FIG. 58A

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Item Detail

Min Order: 1

Avg Order: 1

Last Order: 17 Jan 2000

Orders/Year: 1

Units: 4.0

UOM: OUNCE

Case Qty: 36

RXDA: 7

Return Code: _____

Is Generic: M

DONE

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FIG. 58B

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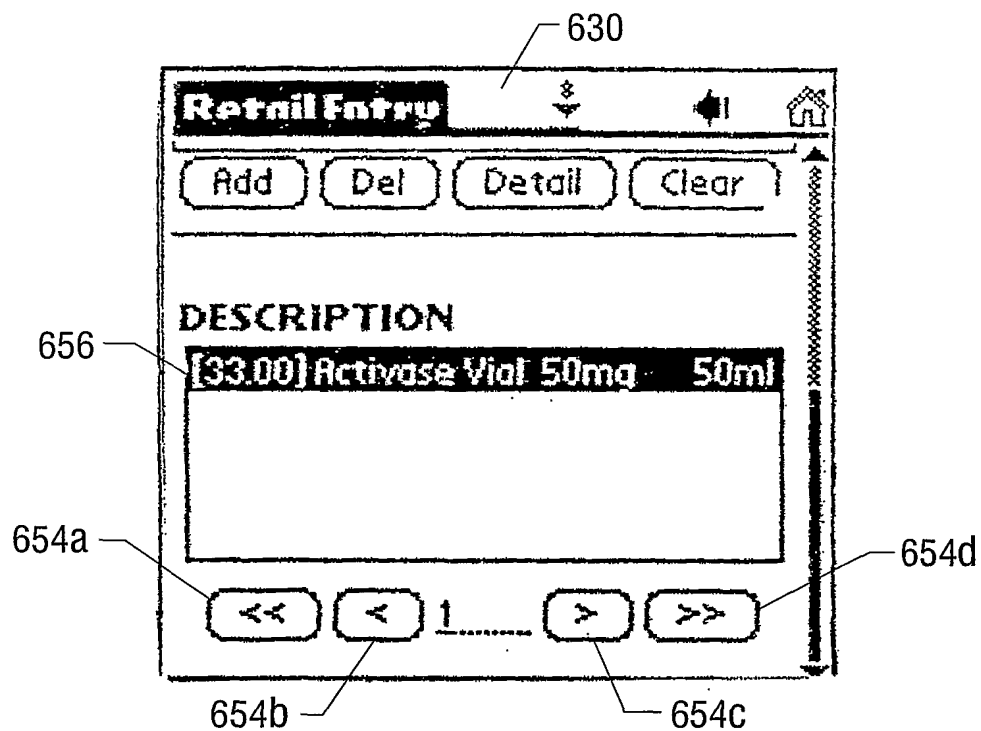


FIG. 59

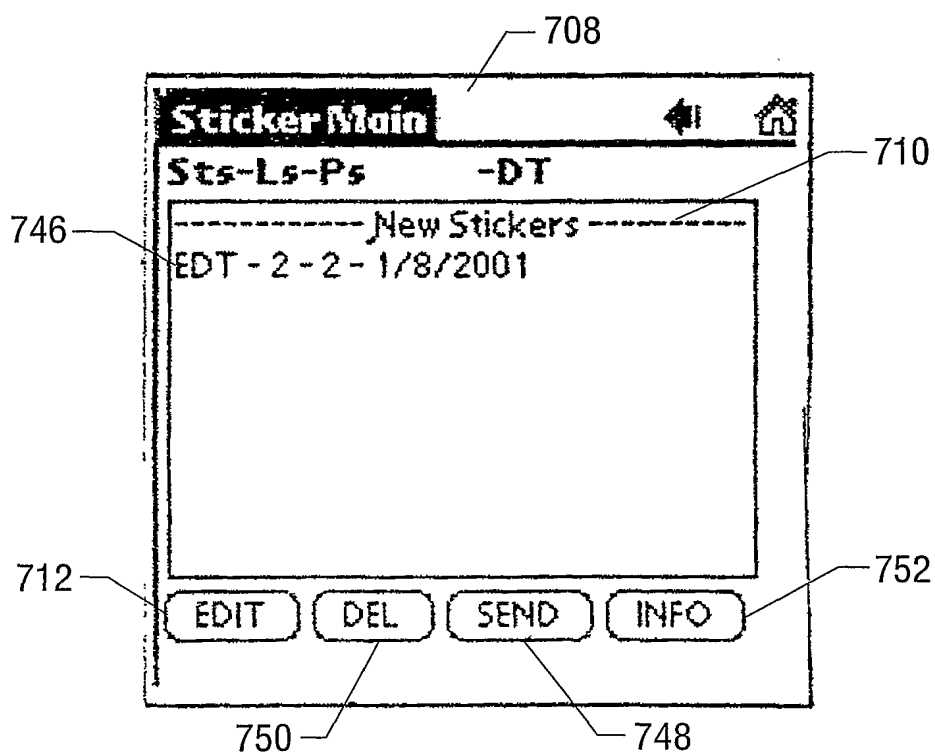


FIG. 61

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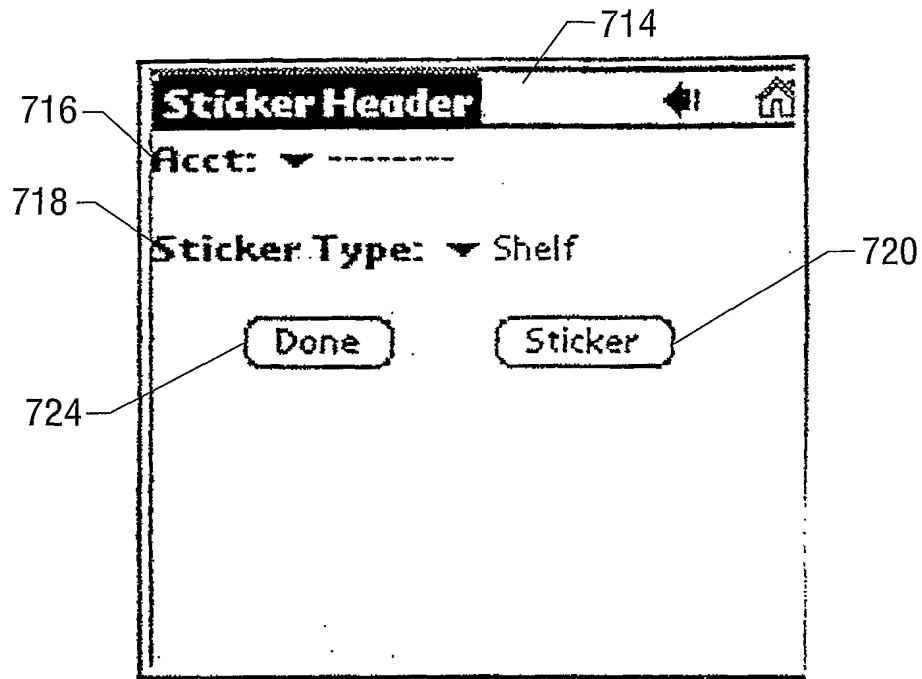


FIG. 62

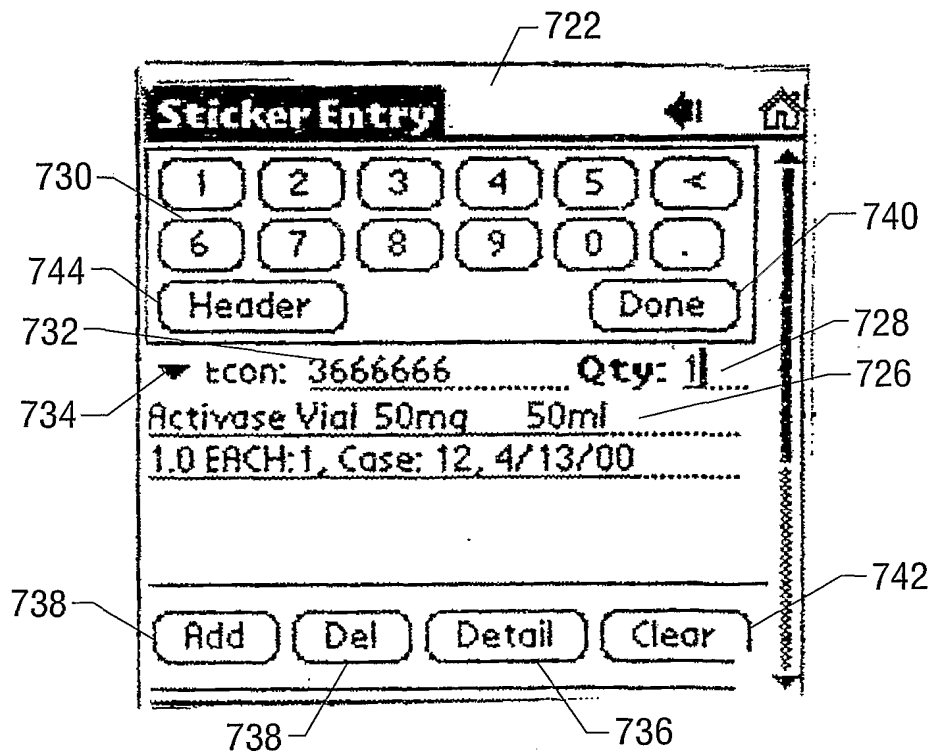


FIG. 63